

The London School of Economics and Political Science

**The political economy of urbanisation and development
in sub-Saharan Africa**

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Declaration

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Abstract

This thesis consists of a brief introduction, which situates the work within in the intellectual history of development theory, and three papers that address important gaps in our understanding about the dynamics of urbanisation and urban development in sub-Saharan Africa.

The first provides an interdisciplinary, historical perspective on the dynamics of urbanisation and urban growth in the region from the colonial era to the present day. I argue that these processes are fundamentally driven by mortality decline set in motion by improvements in disease control and food security. Viewed through this lens, the widely noted phenomena of ‘urbanisation without growth’ and very rapid urban population growth in the late 20th century are not as unusual as they have often been portrayed by development economists and policymakers.

The second addresses the question of why sub-Saharan Africa has the highest rate of slum incidence of any major world region. I argue that slums can be interpreted as a consequence of ‘disjointed modernization’ in which urban population growth outpaces economic and institutional development. I trace the origins of disjointed modernization in sub-Saharan Africa back to the colonial period and show that colonial era investments and institutions are reflected in contemporary variation in slum incidence. I argue that ‘status quo interests’ and the rise of an anti-urbanisation bias in development discourse have inhibited investment and reform in the post-colonial era.

The final paper presents and tests an empirical model designed to account for variation in urban protest activity across countries in the region. The model is comprised of basic demographic, political and economic factors that theoretically influence the motives, means and opportunities of potential protestors. The results of a panel data analysis are consistent with the core hypotheses, but several unexpected results emerge. More research is required to confirm these results, clarify mechanisms and account for broader trends in contentious collective action in the region.

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Chapter One

Urbanisation and African development: a research agenda

In this introductory chapter I situate the thesis within the intellectual history of development theory, outline the empirical questions addressed in the following chapters and offer a preview of the findings.

1.1 Urbanisation and development theory: a brief intellectual history

Historians and social scientists have traditionally associated the ‘Urban Revolution’—i.e. the emergence of cities and urban ways of living some 6000 years ago—with the rise of civilization, with progress, and with modernity. Early cities were incubators of the socio-political institutions and technologies that made the rise of history’s great civilizations possible (Childe 1950; Sjoberg 1960; Mumford 1961; Davis 1965; Pye 1969), and for thousands of years towns and cities served as the nerve centres of gradually expanding political communities and economic networks (Braudel 1984; Bairoch 1988; Abu-Lughod

1991). However, despite the political and economic power of these early urban centres, their populations remained relatively small until the 18th century. As the Industrial Revolution gathered pace in Northern Europe, cities began to swell rapidly, first in Europe and then in other regions of the globe. As a result, the European experience of urbanisation has generally served as the empirical starting point for social scientists seeking to understand the process and its relationship to social change elsewhere.

In surveying the processes and events that contributed to the rise of capitalism and the Industrial Revolution in Europe, early economists recognized the contribution of towns and cities: large, dense, heterogeneous settlements generate economies of scale and external economies, encourage the division of labour in society, and stimulate technological innovation and the diffusion of knowledge (Smith 1991[1776]; Marshall 1920). Similarly, the pioneers of sociology, such as Tönnies, Weber, Durkheim and Wirth examined the ways in which urban living transforms social organisation, social values, and the role of the individual in community and society. With the emergence of development studies in the aftermath of World War II, the theoretical and empirical contributions of these early social scientists served as the foundation for modernization theory—the first major theoretical paradigm in the field.

Modernization theorists portrayed development as a process of socio-economic evolution that follows a more or less similar path as societies transition from ‘traditional’ to ‘modern’ ways of living. This theoretical approach drew heavily on the histories of capitalist nations in the West, the alternative model of economic development implied by the rise of the Soviet Union, and the experience of rapid reconstruction of European nations after WWII. While the concept remained loosely and variously defined over the years, modernization was effectively synonymous with industrialisation and secularisation, and industrialisation and secularisation were, in turn, closely

associated with the process of urbanisation (UN 1968; Reissman 1970; Germani 1973; Irwin 1975; Ranis 2004).

Urbanisation was understood to be a natural by-product and facilitator of industrial development, driven by the growth of employment opportunities in urban areas as a result of industrial investment during the 'take-off' stage of economic development (Rostow 1960). A steady flow of migrants in search of work in the 'modern sector' was expected to keep real wages low, thereby enhancing the profits of industrial enterprises and the quantity of surplus capital available for further growth-enhancing investments (Lewis 1954). By shifting people out of subsistence agricultural production and into higher value-added activities that entail increasing specialisation and exchange, the process of urbanisation was seen as contributing to the economic transformation of societies.

Urban living was also seen as a stimulus for the cultivation of social attitudes, beliefs, and values conducive to capitalist development, as well as a force for political consolidation and the development of nationalism (Gerschenkron 1963; Huntington 1968; Pye 1969; Reissman 1970; Boone 2012). In urban areas social relations based on kinship, clan and tribe are augmented and replaced by those based on occupation, income, location of residence and forms of recreation. Social mobility, both horizontal and vertical, is greater in cities due to the diversity of economic activities and the possibility to obtain regular waged employment (Bairoch 1988). And urbanism has long been associated with reduced fertility rates, which results in slower population growth and enhanced freedom for women as they gain more control over their reproductive cycle (Notestein 1945, cited in Dyson 2001, 73).

In sum, the prevailing attitude of early development theorists was that the process of urbanisation is a positive phenomenon and that 'urban life is the dynamic basis for most of the activities and processes we associate with modernity and economic progress' (Pye 1969, 401). Significantly, modernization

theory served as a guide for those engaged in development as an activity — as a ‘conscious collective enterprise’ (Brett 2009) — such as the development planners trained in North America, Europe and the Soviet Union who were deployed by the newly established bilateral aid agencies and multilateral institutions set up in the post-war period. And the theory evolved in an intellectual climate that accepted the potentially constructive role of an activist state pursuing modernity through accelerated investment programmes and strategic planning (Ranis 2004).

Consequently, urban and regional planning initiatives were pillars of early development efforts. Urban planning and investment was seen as essential to create the physical and institutional platforms required for the successful implementation of import-substitution-driven industrial development, and regional planning was seen as a tool for nation-building by promoting the integration of the economic, political and social lives of diverse communities within a given national territory (Friedmann 1967; UN 1968). There was a very clear and conscious effort to direct the process of urbanisation, which generally manifested in policies explicitly designed to mimic the forms of cities and urban systems in Europe and North America in an attempt to invoke or accelerate modernization through spatial planning.

These efforts were also informed by immediate concerns about the emerging patterns and consequences of rapid urban population growth in less-developed regions. A series of UN-sponsored surveys in Africa, Asia and Latin America in the 1950s revealed historically unprecedented rates of urban population growth, burgeoning shanty towns and rising under- and un-employment, particularly among youth (UN 1968, 3-4). These trends raised fears of social and political instability in these regions and stimulated calls for more resources to be channelled towards understanding and managing urbanisation. But a sea-change in development discourse and practice in the 1970s resulted in a retreat from urban-centred development strategies. Indeed, there was a growing

sentiment that urban and regional planning was not only ineffective, but quite possibly harmful.

This shift was long in the making and resulted from the convergence of multiple critiques of prevailing development discourses and policies. First, there was a growing sense that the resources and capacities of local and national governments in developing countries were simply inadequate to effectively absorb rapidly expanding urban populations, and that attempts to do so resulted in an inefficient allocation of scarce resources. Already in the 1950s the term ‘over-urbanization’ was coined to describe the apparent imbalance between rates of urban population growth and industrial development—a situation that was portrayed as ‘abnormal’ in comparison to the European experience (Sovani 1964). In a very influential article, development economists Harris and Todaro (1970) recommended shifting resources away from urban development and putting in place policies to discourage or prevent rural-urban migration, and such policies were subsequently implemented in countries across the world (see Chapter 3).

Second, there was a growing consensus that the strategy of state-driven industrialisation was not working and possibly undermining development objectives. The anticipated (positive) ‘spread’ effects of industrial investment in urban centres increasingly appeared to be outweighed by the (negative) ‘backwash’ effects (Myrdal 1963), and there was concern that in response to demographic pressure in urban areas public expenditure was skewed towards providing services in rapidly growing cities to prevent unrest at the expense of growth-enhancing investments in rural areas (Pye 1969; Sovani 1964). Instead of contributing to industrial transformation, rapid urban growth was seen to be creating a situation in which ‘urban misery and rural poverty exist side by side,’ leading to the pessimistic conclusion that ‘the city [in developing regions] can hardly be called “dynamic,” as social historians of developed countries

generally described the process of urbanization' (UN/UNESCO 1957, cited in Sovani 1964, 113). Such negative assessments were further strengthened by economic crises across the developing world in the 1970s and 1980s, which revealed the unsustainable nature of many of the industrialisation strategies in place.

Third, the gross inequalities that had emerged between wealthy political-business elites on the one hand and the masses of peasants and urban poor on the other as a result of these strategies became increasingly clear, stoking an already growing interest in distributional issues among development scholars and professionals, particularly at the World Bank (Seers 1969; Chenery et al 1974; Fei, Ranis and Kuo 1979). These concerns were echoed in more radical form by dependency theorists, such as Frank (1967) and Cardoso (1972), who offered a scathing critique of modernization theory. These scholars claimed that wealthy nations achieved their economic success on the back of less-developed countries; that poor nations were actively *underdeveloped* by the globalisation of capitalism; and that the discourse of development was merely a façade concealing the interests of powerful nations and international capitalists. From the dependency perspective, cities were depicted as parasitic 'islands of privilege' and outposts of capitalist penetration inhabited by a *comprador* class systematically exploiting the rural masses (Schatzberg 1979; Southall 1979).

As the desirability, effectiveness and fairness of urban-centred development strategies came under question, mainstream development discourse shifted emphasis away from industrialisation and toward growth and poverty alleviation. Given the wide income and welfare gaps apparent between rural and urban areas (when drawing on statistics aggregated at the city-level), and given that the majority of the world's poor live in rural areas, the new emphasis on poverty alleviation was naturally accompanied by a surge of interest in rural (as opposed to urban) development. At the extreme, urban development was portrayed as the primary source of inequality and an obstacle to national

development. In the most concise and forceful summary of this position, Michael Lipton advanced what became known as the 'urban bias thesis', which essentially portrayed economic development as a zero-sum game between rural and urban areas:

The most important class conflict in the poor countries of the world today is not between labour and capital. Nor is it between foreign and national interests. It is between the rural classes and the urban classes. The rural sector contains most of the poverty, and most of the low-cost sources of potential advance; but the urban sector contains most of the articulateness, organization and power. So the urban classes have been able to 'win' most of the rounds of the struggle with the countryside; but in so doing they have made the development process needlessly slow and unfair (1977, 1).

Further research appeared to support his claims (Bates 1981; Agarwala 1983), lending momentum to the anti-urban turn in mainstream development research and policy. This was bolstered by the rise of a neoliberal orthodoxy (i.e. Washington Consensus) that portrayed state intervention in the economy as a disruptive and counterproductive force. In a push to 'roll back the state', urban and regional planning was side-lined and the process of urbanisation more generally was increasingly portrayed 'as a vicious trend in human society' (Lowry 1990; see also Arnott and Gersovitz 1986; Massey 1996). In the course of one generation the initially positive view of the relationship between urbanisation and development held by scholars and professionals had turned decidedly negative.

This is not to say that there was a 'pro-urbanisation' bias in development theory or policy prior to the 1970s. Colonial powers in Africa and elsewhere put policies in place to restrict rural-urban migration and settlement in urban areas. In the postcolonial era some national governments such as China, Cambodia, South Africa and Tanzania implemented forced rural settlement as an explicit development policy. Nevertheless, mainstream development theory and policy

generally viewed urbanisation as a natural complement to economic development and ‘modernization’ until the emergence of this theoretical paradigm that portrayed cities and urban population growth as an important *obstacle* to economic development.

Due to this shift in mainstream development discourse, the study of urbanisation has remained peripheral in the field of development studies over the past few decades resulting in a dearth of research (Beall and Fox 2009). This research deficit is problematic from a policy perspective. As Lucian Pye observed over four decades ago, ‘it is peculiarly difficult to achieve sound and enlightened [urban development] policies because there is so little accurate information and knowledge about...the dynamics of the urbanization process’ (Pye 1969, 401). This observation remains relevant today, particularly in sub-Saharan Africa.

1.2 Addressing some big, basic questions about Africa’s urban transition

In 1968, a report published by the United Nations Economic Commission for Africa (UNECA) offered the following warning:

For Africa, [the] unprecedented increase of the urban population in the recent past, and the prospects for further increase in the near future, have immediate economic and social implications concerning employment, housing, education, health, etc; unless positive planning measures are taken, this rapid growth of urban population in Africa is likely to aggravate the present urban pathology, expand the “bidonvilles,” slums and shantytowns, and lead to considerable discontent and unrest (UNECA 1969, 128).

In many respects these fears have been realised. Africa’s urban population continued to grow rapidly in the decades to follow, and this growth was accompanied by the proliferation of unplanned settlements characterised by very poor living conditions. In 2010 UN-Habitat estimated that over 150 million

Africans were living in 'slum' conditions, representing roughly 60% of the urban population of the region—by far the highest rate of 'slum incidence' of any major world region. Demonstrations, riots and strikes are a regular feature of urban life in many countries across the region, and there is some evidence that episodes of urban unrest may be increasing in frequency. There is now a growing sense that an 'urban crisis' is brewing in sub-Saharan Africa (Tibaijuka 2007; Hove, Ngwerume and Muchemwa 2013). Exactly 40 years after sounding the alarm, the UNECA made the following observation:

the huge infrastructure challenge of the rising urban population is yet to receive the attention that it deserves. In the final analysis, Africa's future also depends [alongside rural development] on how effectively its growing cities are leveraged for economic growth and development (UNECA 2008, 109).

There is, however, no consensus on how to harness urbanisation and 'leverage' African cities to achieve development objectives. This is due, at least in part, to the lack of systematic comparative research on the dynamics of urbanisation and development over the past several decades, especially in sub-Saharan Africa. It is this knowledge deficit that serves as the primary motivation for this collection of papers, which addresses three big, basic questions that have received surprisingly little attention from development scholars in recent decades:

- 1) What is driving urbanisation and urban growth in sub-Saharan Africa?
- 2) Why does sub-Saharan Africa have the highest rate of slum incidence of any major world region, and what accounts for the wide variation in slum incidence across countries within the region?

- 3) Why are some countries more prone to urban protest (i.e. demonstrations, riots and strikes) than others, and what accounts for variation in protest activity within countries over time?

My approach to answering these questions combines the sensibility of historical comparative research (HCR) with the kind of cross-country statistical analysis of observational data that is commonplace in contemporary development economics.

Generally speaking, historical comparative researchers use the systematic comparison of a relatively small number of cases to develop causal arguments about phenomena of interest that may be applied to a larger universe of cases. As a social research methodology it is primarily inductive in nature, seeking insights to inform theory and generate new hypotheses rather than to test existing ones (Gerring 2007; Mahoney and Rueschmeyer 2003; Steinmo 2001; Thelen 1999; Tilly 1984). It is also an approach that assumes ‘that the time and place in which a structure or process appears makes a difference to its character’ and that the sequencing of events matters to outcomes of interest (Tilly 1984, 79). Historically-minded researchers deal ‘in a multiplicity of causes’, attentive to the interactions between multiple processes and ‘intervening variables’ on a single outcome, and seek to provide some narrative order to this complexity by identifying hierarchies of causation to highlight the most important mechanisms driving particular outcomes based on logical reasoning (Carr 1990; Mahoney 2003; Mahoney, Kimball and Koivu 2009).

These characteristics of historical comparative research—i.e. the focus on induction, attention to the location, timing and sequencing of events, and recognition of multiple causal pathways—make it uniquely suitable for the investigation of “‘big” questions of structures and processes’ such as urbanisation that remain poorly understood (Mahoney and Rueschmeyer 2003; see also Tilly 1984). The chapters to follow are heavily informed by this

approach: each explicitly seeks to construct a contextually-informed causal narrative based on process tracing using the best evidence available.

Unlike traditional HCR, I mostly test my hypotheses using statistical analyses of large samples rather than carefully constructed case comparisons.¹ This aspect of my research is very much inspired by the cross-country studies that have been published in what might be called the ‘history matters’ movement in development economics, which can be traced back to the late 1990s with the proliferation of research into the long-run economic consequences of factor endowments, colonialism and legal institutions (see Nunn 2009 for an excellent survey of this research). Moving beyond the politically naïve macroeconomic development models of the past, as well as the seemingly inexhaustible state versus market debate, scholars such as Englebert (2000), Acemoglu, Johnson and Robinson (2001), Lange (2004), and Nunn (2008) demonstrated the profound and lasting impact of past events such as colonial occupation and slavery on subsequent development trajectories using creative statistical analyses. At roughly the same time scholars such as Gallup, Sachs and Mellinger (1999) and Engerman and Sokoloff (2002) found significant evidence of the long-run development implications of geographic and ecological endowments. One of the great strengths of these studies was their ability to explicitly test the generalizability of theories that, in many cases, had originally been advanced by qualitative researchers.

Combining the inductive, narrative emphasis of historical comparative research with the generalizability of statistical analysis allowed me to develop and test theories designed to account for the stylised facts of Africa’s urban transition. However, what is gained in breadth is lost in depth. The quantity and quality of African data is poor, particularly in urban areas, forcing me to employ relatively crude models with rough proxies for actual variables of

¹ It should be noted, however, that many of the theories and hypotheses tested in these chapters were informed or inspired by the careful interrogation of small numbers of cases.

interest. Moreover, quantitative analysis based on observational data of macro processes is not well-suited to the task of testing specific causal mechanisms, particularly when political factors take centre stage in the narrative. In many cases, more fine-grained qualitative research will be needed to confirm and support my claims. Nevertheless, I am confident in the integrity of the arguments presented in the pages to follow.

1.3 Preview of the findings

Chapter Two draws on insights from development economics, demographic theory and economic history to account for the stylised facts of sub-Saharan Africa's urban transition, namely a late onset relative to other major world regions, very rapid urban population growth and persistent urbanisation in the face of economic crisis and stagnation, a phenomenon dubbed 'urbanisation without growth'. These latter two dynamics have been a source of considerable concern for decades. Portrayed as abnormal and undesirable, they have motivated the adoption of policies designed discourage or prevent rural-urban migration. These policies have serially failed to have any discernible effect on demographic trends in the region or socioeconomic development. A different approach is clearly needed.

I argue that urbanisation and urban growth are fundamentally driven by mortality decline, which in turn is stimulated by technological and institutional changes that facilitate disease control and food security in urban areas. While economic development can accelerate the process, it is not a necessary condition for urbanisation and rapid urban growth to occur. In Africa, mortality decline was set in motion during the colonial era; sustained economic development in the form of expansion and diversification of output was not. This explains the apparent de-coupling of urbanisation and economic development in the region

and highlights the need for concerned policymakers to focus less on population mobility and more on mortality and fertility trends.

In Chapter Three I address the question of why so many Africans live in slums, and why there is such dramatic variation in 'slum incidence' across the region. In a major 2003 report UN-Habitat cited a wide range of factors that have been identified by researchers as contributing to the prevalence of slums in developing countries, including rapid urban growth in the face of resource and capacity constraints, poverty, inequality, global economic dynamics, liberalization policies, legal exclusion, social exclusion and (in particular) a 'lack of genuine political will to address the issue in a fundamentally structured, sustainable and large-scale manner' (UN-Habitat 2003, 5). I make an effort to sift through this bewildering array of explanations in order to identify the underlying causes of slum growth and persistence.

I argue that the growth of slum settlements in sub-Saharan Africa can superficially be understood as product of 'disjointed modernization' in which urban population growth outpaces economic and institutional development and demonstrate empirically that urban population growth, proxies for urban economic development and a general indicator of institutional quality collectively account for about 70% of cross-country variation in slum incidence. I then trace the origins of disjointed modernization back to the colonial period, when the physical and institutional foundations of the vast majority of African cities were laid, and demonstrate that colonial patterns of investment and institutional development are reflected in contemporary patterns of urban development. To account for this apparent path dependency, I argue that domestic 'status quo interests' and the emergence of an anti-urbanisation bias in international development circles discouraged a proactive approach to urban management in the 1980s and 1990s and contributed to the expansion of slum settlements in the region.

In Chapter Four I turn my attention to identifying the determinants of variation in urban protest incidence across countries in the region. This is a topic that has received surprisingly little attention considering the frequency of such events. Combining insights from the conflict studies and contentious politics literatures I develop an empirical model of protest incidence comprised of basic demographic, political and economic factors that theoretically influence the means, motives and opportunities for protest mobilization.

A test of this model exploiting panel data indicates that urban protest incidence is positively associated with urban population size, an indicator democracy, electoral events and institutional reforms, and negatively correlated with growth in GDP per capita, as expected. However, the analysis also reveals some unexpected results: a country's level of urbanization and degree of press freedom are both negatively correlated with protest incidence while GDP per capita is positively associated with reported protests. These findings warrant further research, as does the possibility that demographic, political and economic trends in the region are driving a transformation in the nature of contentious political action in the region.

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Chapter Two

Sub-Saharan Africa's urban transition in historical perspective

Sub-Saharan Africa's urban transition is characterised by three stylised facts: relatively late onset, very rapid urban population growth from the mid-20th century, and persistent urbanisation in the late twentieth century despite economic crisis and stagnation. In this chapter I draw together insights from development economics, demographic theory and economic history to account for these dynamics. I argue that urbanisation and urban growth are ultimately driven by mortality decline, which in turn is linked to disease control and food security. Viewed through this lens, urban population trends in the region are less unusual than they have often been portrayed by development economists and policymakers.

2.1 Introduction

In 1960, at the dawn of the independence era, sub-Saharan Africa was the least urbanised major world region. Over the course of the following decades the region's urban population grew rapidly in absolute terms and persistently in relative terms despite protracted economic crisis—a widely noted but inadequately explained phenomenon dubbed 'urbanisation without growth' by development economists (Fay and Opal 2000). In this chapter I draw together insights from demographic theory, development economics and economic history to account for these three stylized facts of sub-Saharan Africa's urban transition, namely the late onset of African urbanisation vis-à-vis other major

world regions, very rapid urban population growth in the postcolonial era, and the persistence urbanisation in the late 20th century despite economic stagnation (Table 2.1).

Table 2.1 *Urban population and economic trends by region*

	1960	1975-2005		
	Urban population (%of total)	Urban growth rate	Urbanisation rate	GDP growth rate
Sub-Saharan Africa	14.75	4.27	1.53	-0.15
East Asia & Pacific	22.46	3.29	1.99	2.90
South Asia	16.73	3.26	1.18	3.03
Middle East & North Africa	34.98	3.44	0.90	0.97
Latin America & Caribbean	49.26	2.64	0.80	1.07

Notes: Calculated based on data from World Bank World Development Indicators Database, accessed January, 2014. GDP growth rate estimates based on GDP per capita (constant 2000 US\$).

I argue that the paucity of urban centres in pre-colonial sub-Saharan Africa can be attributed to natural geographic endowments, which a) limited the availability of the surplus food supplies required to establish large, permanent settlements and b) imposed a heavy disease burden. Historical evidence from other regions indicates that food security and disease control are necessary pre-requisites for the emergence of urban settlements and the growth of urban populations.

Knowledge, technologies and institutions introduced through colonialism, the intensification of trade from the 19th century and international development assistance in the late 20th century all contributed to significant improvements in both food security and disease control in the region, setting in motion a secular decline in mortality rates and a population boom. By the late colonial era towns and cities began to grow rapidly, although restrictions on rural-urban migration suppressed urbanisation until the independence era, which saw the relaxation of

migration restrictions and a surge in employment opportunities for Africans in the towns and cities that were mostly established under colonial rule.

Beginning in the mid-1970s, economic crises swept across the region resulting in widespread urban unemployment, state retrenchment and sharp reduction in strategic public investments designed to promote structural transformation in economic output. Contrary to the expectations of prevailing economic theories of the time, which viewed urbanisation as intrinsically linked to urban employment opportunities, urban populations continued to expand in countries across the region in both absolute and (in all but a handful of important exceptions) relative terms.

I argue that this period of 'urbanisation without growth' can be explained by the demographic processes underpinning urbanisation and urban growth. While economic development can serve to stimulate rural-urban migration, and hence spur urbanisation, mortality decline is in itself sufficient to drive the process. While economic development and mortality decline often go together, this is not always and automatically the case. Improvements in disease control and food security can be made without stimulating an expansion of per capita output or diversification in an economy.

In sub-Saharan Africa, countries that have experienced more rapid economic and demographic growth have urbanised more quickly in the post-war era, but the absence of economic growth has not been sufficient to arrest urbanisation and urban population growth wherever mortality has continued to fall and sufficient food supplies have remained available. A cross-country statistical analysis confirms that mortality decline since 1960 is robustly correlated with urbanisation and urban growth in sub-Saharan Africa, while the correlation between growth in GDP per capita and urbanisation is inconsistent. In sum, the dynamics of Africa's urban transition, which have often been presented as somehow abnormal, are explicable when demographic, economic and historical

factors are integrated into a holistic understanding of the processes of urbanisation and urban population growth.

The remainder of the article is organized as follows. The following section provides key definitions, addresses measurement issues in urban demographic research and summarises key data deficits. Section three reviews theories of urbanisation in development economics, demography and economic history and presents an integrated framework for analysing the forces that drive the process. Section four applies this framework to urbanisation trends in Africa in the pre-colonial and colonial era and provides some statistical evidence that natural geographic endowments and variations in colonial experience have had long lasting effects on country-level trajectories of urbanisation and urban growth. Section five examines the dynamics of African urbanisation in the post-colonial era and provides an empirical analysis which supports the argument that 'urbanisation without growth' may be accounted for once unique historical circumstances and population dynamics are factored into the analysis. Section six concludes with a comment on the policy implications of the theory and evidence presented.

2.2 Urban demography: definitions, measurement and data deficits

In this chapter, and those that follow, I rely on United Nations population data for the quantitative components of the analysis. It is therefore important to address at the outset how urban populations are defined and measured, address potential sources of systematic bias and highlight key data deficits.

Key definitions

There is considerable confusion with regards to the terminology associated with the study of urbanisation, beginning with the definition of 'urban' itself: there is no theoretical or practical consensus on the matter. Louis Wirth, a founder of

the Chicago School of Sociology, famously defined a city as ‘a relatively large, dense, and permanent settlement of socially heterogeneous individuals’ (Wirth 1938, 8). Wirth’s contemporary, eminent urban historian Lewis Mumford, offered a somewhat broader definition by including the social division of labour as a key characteristic of ‘urbanism’ (Mumford 1937, 93). Both definitions are reflected today in the various criteria used by national statistical offices to classify human settlements (see below).

These definitions are obviously slippery: what distinguishes a large village from a small town, or a large town from a small city? At what degree of specialisation does the division of labour in a community qualify as ‘urban’ in character? There is clearly a spectrum between rural and urban ways of living with fuzzy boundaries. Nevertheless, the ‘urban’ remains an enduring theoretical construct and has been a focal point of social scientific enquiry for well over a century as the world population has come to live in ever-more and ever-larger settlements. While there may never be a consensus on the precise boundary between the rural and the urban, few would argue with the basic claims that life in a small village differs from that in a town or city, and that there has been a dramatic increase in the number and size of identifiably ‘urban’ settlements across the world over the past two hundred years.

There is less ambiguity but arguably more confusion with regards to the definition of ‘urbanisation’, which is used in the English language in at least three ways: a) to refer to the process of rural-urban migration, b) to refer to the expansion of built-up areas, and c) to refer to an increase in proportion of a nation’s population living in settlements classified as urban (see Parnell and Walawege 2011; Oxford English Dictionary). In this thesis ‘urbanisation’ is used specifically to denote a level or increase in the proportion of a national population residing in urban areas.

Matters are further muddled by the tendency for scholars and policy makers alike to conflate urbanisation with urban population growth (or simply ‘urban

growth'), which refers specifically to an increase in the *absolute* number of people living in urban settlements rather than the proportion of people living in urban settlements.² While urbanisation and urban growth often go together, they are distinct phenomena. It is possible for urban growth to occur without urbanisation. For example, many 'fully' urbanised countries in North America, South America and Europe continue to experience urban population growth despite no (or very little) increase in the proportion of people living in urban areas. Throughout this thesis I am careful to distinguish between urbanisation and urban growth.

Another source of confusion is the difference between expressing levels and rates of urbanisation. In English the word 'rate' can be used to denote a ratio or velocity. As a result, the phrase 'rate of urbanisation' is sometimes used to refer to the percentage of a nation's population living in urban areas and sometimes used to denote the pace of change in the proportion of the population living in urban areas. For the sake of clarity, I use the phrase 'level of urbanisation' to refer to the percentage of a nation's population living in urban areas and 'rate of urbanisation' to denote changes in the proportion urban over a specified unit of time.

Measuring urban populations: sources, definitions, and potential biases

In the following chapters I use urban population estimates from the Population Division of the United Nations. These estimates are derived primarily from national census data and a handful of Sample Surveys. During intercensal years estimates are produced with standard population models. As a result, the accuracy of population estimates for any given country in any given year

² For example, in a recent article in which Parnell and Walawege (2011) explicitly discuss the definition of urbanisation, they make the mistake of presenting statistics on regional urban growth rates as regional rates of urbanisation.

depends on the amount of historical data available and the length of time between the last census (or sample) and the year of estimation.

In sub-Saharan Africa vital registration statistics were scarce and of questionable quality prior to the 1970s. Matters improved somewhat in subsequent decades. Since the 1994, 45 out of 48 countries in the region have conducted at least one census (Tabutin and Schoumaker 2004). Nevertheless, wide variation remains in the quantity and quality of data available across countries. Some, such as Kenya, Ghana and Zambia, have conducted regular censuses; others, such as Angola, DR Congo and Somalia have not conducted a census for two decades or more (ibid). Consequently, the quality of the estimates varies considerably across countries. Unfortunately these are the best numbers available to researchers and policy makers alike. There is clearly an urgent need to devote more resources to basic demographic data collection in the region.

Another potential concern is the diversity of criteria that national statistical agencies use to classify settlements, drawing into question the comparability of urban population estimates across countries (Satterthwaite 2007). Some countries use a simple minimum population threshold to classify a settlement as urban, although thresholds vary. For example, in Angola, Ethiopia and Sierra Leone any settlement with a population of 2000 inhabitants or more is classified as urban, while Senegal and Benin use a minimum threshold of 10,000 or more inhabitants (United Nations 2012). However, other countries use more elaborate criteria. For example, in Zambia urban settlements are 'Localities of 5,000 inhabitants or more, with a majority of the labour force not in agricultural activities' while in Namibia urban settlements include 'The district headquarters and other settlements of rapid population growth with facilities that encourage people to engage in non-agricultural activities' (ibid).

Given the wide range of criteria used to classify urban settlements, there is a legitimate concern that estimates of urban populations are not comparable

across countries. In particular, countries with higher population thresholds may have lower reported levels of urbanisation and smaller urban populations. For the purposes of quantitative analysis, it is therefore important to determine the extent to which these different definitional criteria account for cross-country variation in urban population estimates.

Following Bandyopadhyay and Green (2013), Figure 1.1 shows the correlation between a country's minimum population threshold for urban classification and reported urban population size in 2011 for 97 countries (including 31 in sub-Saharan Africa); Figure 1.2 shows the correlation between the classification threshold and level of urbanisation in 2011 for the same sample of countries. In both cases I have selected all countries that explicitly include a minimum population threshold for urban classification, even if this is not the primary or sole criteria for classification. Data are from United Nations (2012).

Figure 2.1 indicates a weakly positive correlation between the classification threshold and urban population size ($R\text{-squared}=.030$; $p=.089$), somewhat contrary to expectations. Figure 2.2 indicates that there is no correlation between classification thresholds and estimated levels of urbanisation ($R\text{-squared}=.002$; $p=.677$).

Figures 2.3 and 2.4 repeat the exercise with a sample of 54 countries (including 18 from sub-Saharan Africa) that use a minimum population threshold as the primary or sole criteria for urban classification. With this sample there is no significant correlation between thresholds and urban population size ($R\text{-squared}=.029$; $p=.215$), nor between thresholds and estimated levels of urbanisation ($R\text{-squared}=.000$; $p=.901$).

Figure 2.1 *Correlation between classification threshold and urban population in 2011 (n=97)*

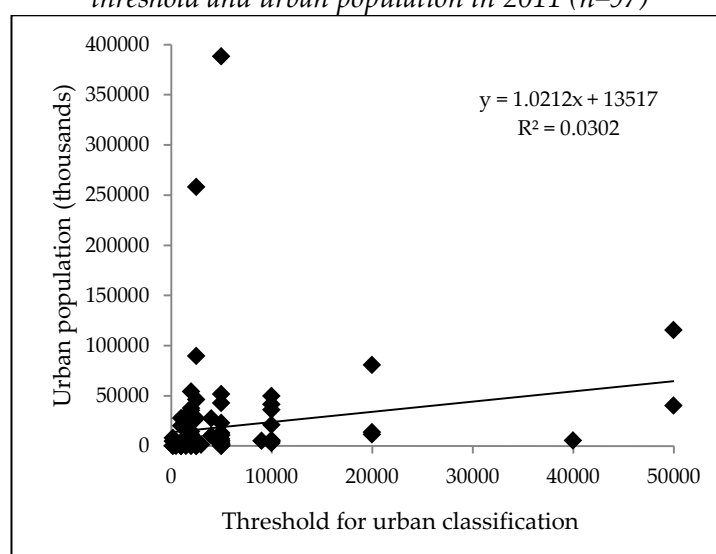
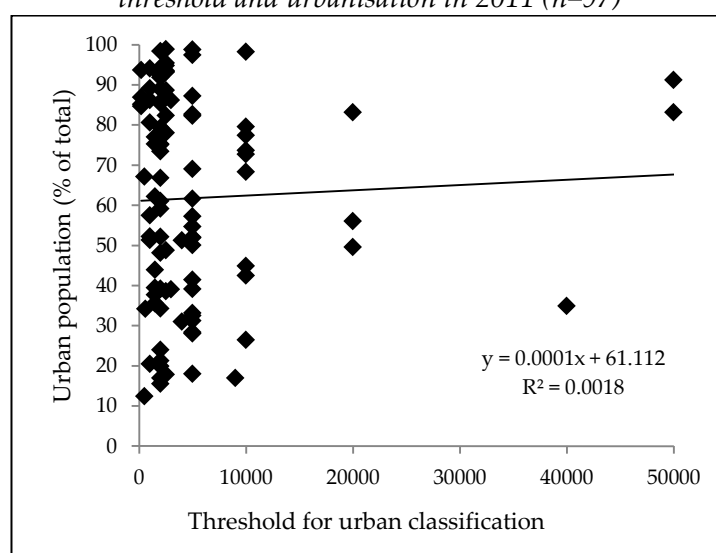


Figure 2.2 *Correlation between classification threshold and urbanisation in 2011 (n=97)*



Notes for Figures 1.1 & 1.2: Sample includes all countries that have a minimum population threshold for the classification of a settlement as urban, even if this is not the primary or sole criterion for classification. Ninety-seven countries meet this selection criterion, including 31 countries in sub-Saharan Africa. The countries included in this sample are as follows: American Samoa, Angola, Argentina, Australia, Bahrain, Bangladesh, Belgium, Benin, Bhutan, Bolivia, Botswana, Burkina Faso, Cambodia, Cameroon, Canada, Central African Republic, Colombia, Comoros, Côte d'Ivoire, Cuba, Czech Republic, Democratic Republic of the Congo, Denmark, Djibouti, Dominica, Equatorial Guinea, Eritrea, Ethiopia, Fiji, France, French Polynesia, Gabon, Gambia, Ghana, Greenland, Guadeloupe, Guam, Guinea-Bissau, Honduras, Iceland, India, Iran, Ireland, Israel, Italy, Japan, Jordan, Kenya, Kuwait, Lao PDR, Lebanon, Liberia, Luxembourg, Madagascar, Malaysia, Mali, Malta, Martinique, Mauritania, Mayotte, Mexico, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Panama, Papua New Guinea, Philippines, Portugal, Puerto Rico, Qatar, Republic of Korea, Réunion, San Marino, Saudi Arabia, Senegal, Sierra Leone, Slovakia, Solomon Islands, Somalia, South Sudan, Spain, Sudan, Sweden, Switzerland, Syrian Arab Republic, Uganda, United Kingdom, United States of America, United States Virgin Islands, Venezuela, Viet Nam, Zambia, Zimbabwe.

Figure 2.3 *Correlation between classification threshold and urban population in 2011 (n=54)*

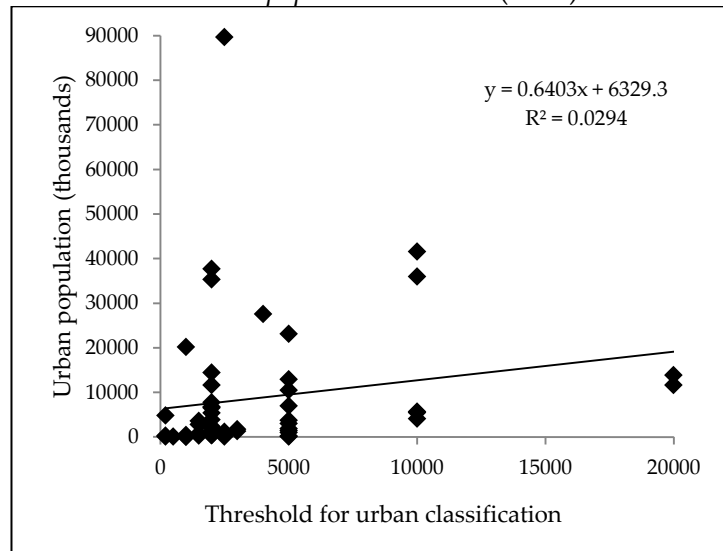
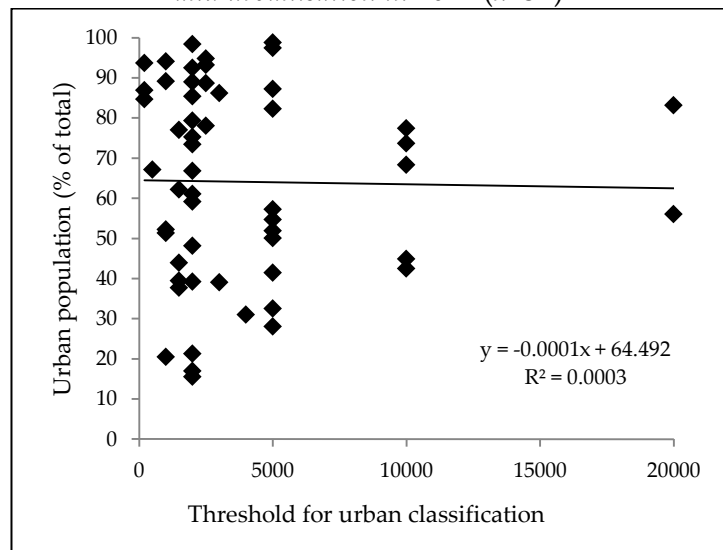


Figure 2.4 *Correlation between classification threshold and urbanisation in 2011 (n=54)*



Notes for Figures 1.3 & 1.4: Sample includes all countries that use a minimum population threshold as the sole or primary criterion for the classification of a settlement as urban. Fifty-four countries meet this selection criterion, including 18 countries in sub-Saharan Africa. The countries included in this sample are as follows: American Samoa, Angola, Argentina, Australia, Bahrain, Belgium, Benin, Bolivia, Central African Republic, Colombia, Comoros, Czech Republic, Denmark, Djibouti, Dominica, Equatorial Guinea, Eritrea, Ethiopia, Fiji, French Polynesia, Gabon, Gambia, Ghana, Greenland, Guadeloupe, Guinea-Bissau, Iceland, Ireland, Italy, Lebanon, Liberia, Luxembourg, Madagascar, Malta, Martinique, Mauritania, Mayotte, Mexico, Netherlands, Norway, Portugal, Qatar, San Marino, Saudi Arabia, Senegal, Sierra Leone, Slovakia, Solomon Islands, Somalia, Spain, Switzerland, Syrian Arab Republic, Uganda, Viet Nam.

An analysis of a sample of sub-Saharan African countries yields similar results. For the 31 countries in the region that include a minimum population threshold in their classification criteria, there is a weakly positive correlation between the threshold and urban population size in 2011 ($R^2=.111$; $p=.067$). However, this result is largely driven by Nigeria, which has a high minimum threshold and the largest urban population in the sample. If Nigeria is excluded there is no correlation between the population threshold and urban population size in 2011. Likewise, there is no correlation between the threshold and level urbanisation, with or without Nigeria in the sample. An analysis of the 17 countries in sub-Saharan Africa that use a minimum population threshold as the primary or sole criterion for settlement classification indicates no significant correlation between the definitional threshold and urban population size or level of urbanisation.

In sum, there is little evidence of a statistically significant bias arising from variation in classification criteria across countries. However, there is one final source of bias to be addressed: changes in classification criteria within countries over time. This is corrected for in each edition of the *World Urbanization Prospects* (published biennially) such that the historical estimates of urban populations (from 1950) for any given country are consistent with the current classification criteria of that country. Problems of comparability arise if estimates from two separate editions of the publication are used for comparative purposes. I have avoided combining population estimates from different editions to minimise biases arising from changes in classification criteria within countries over time.

Data deficits

Apart from the issues associated with definitional diversity, another major obstacle to developing an accurate picture of urban population dynamics in

sub-Saharan Africa is the absence of reliable, comparable time-series data on vital rates (e.g. fertility and mortality) disaggregated by rural and urban residence (United Nations 2001; Tabutin and Schoumaker 2004). This is particularly problematic when seeking to disaggregate the components of urban population growth into natural increase, migration and reclassification. Some efforts have been made utilising indirect estimation, such as the census survival ratio method (see United Nations 2001 for the most comprehensive effort to date), however these methods are very sensitive to the assumptions underpinning them and there are insufficient data points for countries in sub-Saharan Africa to directly identify clear regional trends. For example, there is only enough data to make indirect estimations of the components of urban growth in four countries in sub-Saharan Africa in the 1960s, three in the 1970s and six in the 1980s.

Similarly, there is very little socioeconomic or political data available at the city or urban level. Basic comparable indicators such as income, employment, consumer price inflation, poverty, inequality, land and house prices are simply unavailable for a significant number of countries and years. The situation has begun to improve since the 1980s with the introduction of rigorously samples Demographic and Health Surveys, but large gaps remain in coverage remain. There are also no datasets that provide systematic information on local law and order, urban government finance and performance, etc.

Given these data limitations much of the inference concerning trends and interactions is necessarily indirect and must be treated with caution. Nevertheless, the existing UN data at the country level provides an opportunity to test some hypotheses concerning the macro-trends driving urbanisation and urban growth in the region, as well as the phenomena of slums and urban protests explored in the chapters to follow.

2.3 Integrating economic, demographic and historical theories of urbanisation

The traditional economic theory of urbanisation, which has dominated in both academic and policy circles since the 1950s, revolves around the relationship between structural economic change and the spatial dynamics of the labour market. The basic premise underpinning the theory is straightforward: as the 'modern' urban sector expands (i.e. manufacturing, industry and services) surplus labour from the 'backward' rural economy (i.e. agriculture) is 'pulled' into towns and cities, lured by higher wages (Lewis 1954, Fei and Ranis 1964).

However, as early as the 1950s it was recognized that rates of urbanisation in many developing countries were incommensurate with the growth of waged employment opportunities in urban areas, resulting in under- and unemployment—a phenomenon dubbed 'over-urbanization' (Davis and Golden 1954). To explain this deviation from the classic 'dual-economy' model of urbanisation, and the implied failure of the market to allocate labour efficiently between rural and urban areas, Haris and Todaro (1970) proposed a revised model in which migration decisions are influenced by *expected* as opposed to *actual* earnings in the urban sector. 'Over-urbanisation' is explained in the Haris-Todaro model (HTM) as a consequence of wage-distorting government interventions in the labour market that inflate the wages of a few and the expectations of the masses. In such contexts, the model suggests that wage-equalization or mobility restriction policies will lead to net welfare improvements.

While decades of empirical studies have consistently demonstrated a strong cross-sectional association between indicators of economic development (e.g. income per capita and structure of output) and levels of urbanisation at the national level, empirical tests of the wage-differential mechanism assumed in both the classical model and HTM have produced ambiguous results, explaining only a small fraction of the variation in rates of urbanisation across

countries (see Mazumdar 1987, Jamal and Weeks 1988, Weeks 1995, Becker and Morrison 1995, Fay and Opal 2000, Lall, Selod and Shalizi 2006). This may reflect the failure of standard economic models to account for the role of the urban informal sector (the 'third sector'), which is where most migrants (especially in Africa) end up (Bhattacharya 1993).³ It is also likely a consequence of a narrow focus on positive economic incentives for migration.

A large body of qualitative and quantitative studies conducted in the 1960s, 1970s and 1980s identified a diverse range of non-economic 'pull' factors influencing migration decisions, such as a desire to take advantage of the 'thick' market for spouses in urban areas, acquire the social prestige associated with urban life or pursue adventure in the 'bright lights' of the big city (see Byerlee 1974, Mazumdar 1987, Jamal and Weeks 1988, Becker and Morrison 1995). Conversely, myriad 'push' factors were also identified, such as the desire of youth to escape the control of older generations, of women to escape gender discrimination, and of rural households to diversify income streams by sending a family member to town in the hopes of receiving remittances (ibid). More recent studies have explored the impacts of ethnic conflict, war and climatic variation in driving forced migration to urban areas (Fay and Opal 2000, Barrios, Bertinelli and Strobl 2006). In other words, economic distress—not just economic development—can spur rural-urban migration, and there are many non-economic motivations that influence individual decisions to move. Given the many reasons people leave the countryside for the city it is not surprising that empirical studies have failed to confirm the primacy of the wage-differential mechanism.

In sum, there is clear evidence of a strong association between levels of economic development and levels of urbanisation. However, the pace of urban

³ The lack of comparable data on informal sector wages precludes the possibility of accurately determining the influence of wage differentials between rural areas and the urban informal economy.

population change is only partially explained by income growth and wage gaps between rural and urban areas, indicating that standard economic theories are incomplete. Indeed, in an empirical study explicitly designed to solve the paradox of ‘urbanisation without growth’ in sub-Saharan Africa throughout the 1980s and 1990s, Fay and Opal (2000) note that in many regions—not just Africa—‘urbanization continues even during periods of negative [economic] growth, carried by its own momentum’ (25). The only explanation the authors provide for this momentum is a vague speculation that external forces (e.g. ‘globalization’) may be at work.

An obvious omission from the standard models of urbanisation advanced by development economists, which have been so influential in policy circles (see Chapter 3), is attention to the demographic underpinnings of urban population change.

Unlike economists, who have generally sought to account for rural-urban migration and urbanisation, demographers tend to focus on the factors driving urban growth—i.e. growth in the absolute size of urban populations. They begin with the premise that urban population growth has three proximate causes: 1) natural increase, 2) net in-migration and 3) reclassification (Cohen 2003). Although significant from a statistical methodology point of view, reclassification is generally a by-product of natural increase and migration, so the focus here is on these factors.⁴

Demographers attribute changes in urban natural increase and rural-urban migration to population dynamics associated with the demographic transition (DT). In brief, the DT involves a secular decline in mortality rates followed by a secular decline in fertility rates, shifting a population from a wasteful cycle of reproduction in which many babies are born but the majority die before

⁴ Reclassification is effectively a political/administrative dynamic, but it is closely related to the first and second factors as settlements are generally reclassified as urban (as opposed to rural) once they reach a certain population threshold.

reaching adulthood to an efficient cycle in which fewer babies are born but most survive. Importantly, this transition is everywhere associated with a period of rapid population expansion due to the fact that mortality decline precedes fertility decline, creating a substantial window of time in which births far exceed deaths in a population.

In relation to urban growth, the onset of mortality decline ahead of fertility decline in urban areas raises the rate of urban natural increase and urban populations expand, regardless of whether or not they are net recipients of rural migrants. Theoretically urbanisation could occur in a population without rural-to-urban migration if urban natural increase were to exceed rural natural increase over a sustained period, but this is very rare.⁵ Generally speaking, rural-urban migration underpins the shift in the proportion of the population living in urban areas. It is assumed by demographers that mortality decline in rural areas results in a population boom that contributes to the 'push' factors that drive people into cities as population pressure strains natural resources (such as land and water) resulting in declining living standards and rural misery (Preston 1979, Kelley and Williamson 1984).

There is ample empirical evidence that mortality decline, and the acceleration in population growth that follows, is an important driver of urban population growth. For example, Preston (1979) demonstrated a strong one-to-one correlation between total population growth and urban growth, and many studies have noted that urban natural increase generally contributes *more* to overall urban population growth than rural-to-urban migration does, although the relative contributions of each tend to shift as a country urbanizes with natural increase playing an increasingly important role (e.g. Davis 1965, Preston 1979, Cohen 2003, Lall, Selod and Shalizi 2006).

⁵ Dyson (2010b) provides evidence that urban natural increase outpaced rural natural increase around the turn of the 20th century in Sweden and again in the immediate aftermath of World War II, but this is an exceptional case of relatively brief periods of urbanization without migration.

By contrast, cross-country evidence on the broader relationships between mortality decline, population growth and *urbanisation* is virtually non-existent—a surprising omission from the demographic literature. Indeed, I have been unable to locate a single cross-country study that tests these relationships. According to Dyson (2010b) the paucity of evidence concerning the demographic drivers of urbanisation is largely due to the fact that urbanisation ‘has not ranked highly on the intellectual agenda’ of demographers.

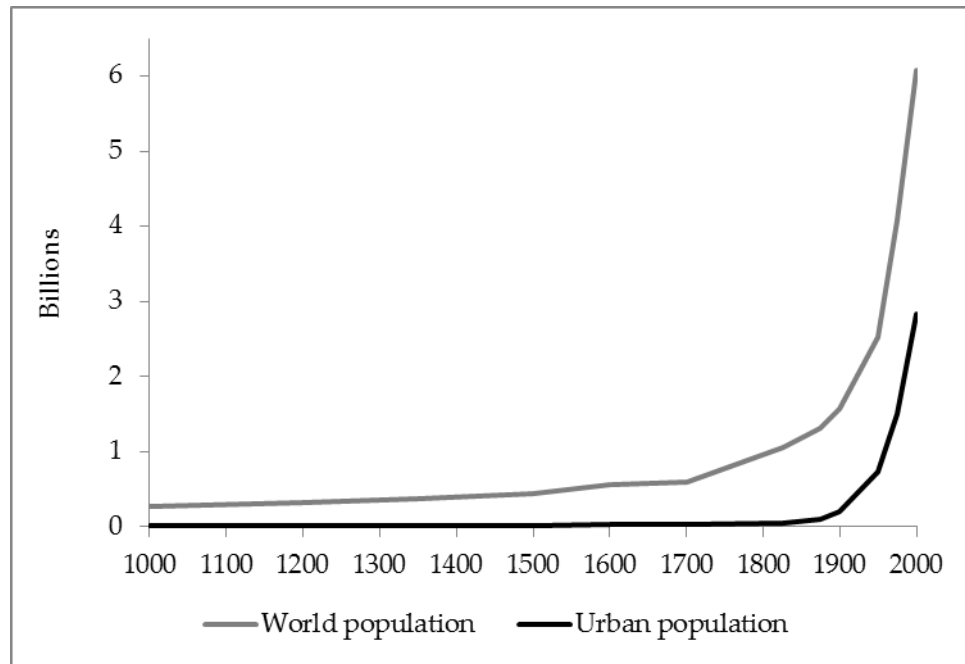
However, there is a small but compelling body of historical demographic and economic research that provides support for the view that a secular decline in mortality rates is a necessary and possibly sufficient condition for urbanisation to occur.

As Figure 2.5 illustrates, the world’s urban population remained roughly constant for thousands of years, hovering around 5% of the global population, before growing explosively from the middle of the 19th century. What accounts for these trends? The answer provided by historical demographers is that cities were deadly places to live until recently. Prior to the 19th century, urban settlements with rudimentary water and sanitation infrastructure were uniquely conducive to the spread of infectious and parasitic diseases. As a consequence, death rates tended to exceed birth rates rendering cities ‘demographic sinks’ (Graunt 1662/1964, de Vries 1984, Bairoch 1988, Lowry 1990, Dyson 2010b). With negative rates of natural increase, urban settlements everywhere depended upon a constant inflow of rural migrants to sustain their populations.

This is an important observation. The fact that cities formed and grew despite consuming more people than they were capable of producing indicates that a constant flow of rural migrants was *necessary* for cities to exist for any length of time in the pre-industrial era. In turn, this suggests that the propensity to migrate out of rural areas and settle in large agglomerations has been a perennial feature of human behaviour for as long as cities have existed—even

when migrants stood to suffer from higher rates of morbidity and mortality than they would have in the countryside. This is consistent with the evidence cited above concerning the many reasons people move to cities, even when it is not apparently rational from an economic perspective.

Figure 2.5 *World population and urbanisation, 1000 AD – 2000 AD*



Sources: Population estimates from Maddison (2009); urbanisation estimates from Grauman (1977) and (United Nations 2010)

This theory also suggests that lowering mortality through disease control is a necessary condition for urban populations to expand. Where the burden of disease is eased, mortality decline in urban areas contributes to urban population growth by raising the rate of urban natural increase and transforming any rural migrants into a source of urban population *growth* instead of mere *maintenance*.

Disease is not, however, the only factor that determines mortality rates in a population. Indeed, economic historians provide a complimentary explanation for the limited scale of urbanisation prior to the 19th century based on a compelling logical premise: cities can only exist where a surplus of food is

available to support a large non-agricultural population (Lowry 1990). It follows that the size of the urban population in any given region is first and foremost a function of the quantity of food surplus it is able to acquire, which in turn is jointly determined by two factors: 1) agricultural productivity and 2) transportation costs (Bairoch 1988).

To appreciate the significance of these basic determinants of urban population size, it is useful to consider the role of each at both local and global scales. Historically, the amount of food that could be produced within a given region determined the surplus available to support an urban population in that region (Bairoch 1988). However, improvements in transport technology eventually made it possible to import food from other regions, rendering the potential amount of surplus that urban populations could theoretically acquire a dual function of local productivity and transport costs (*ibid*). At the global level, the state of agricultural productivity at any given time determines the absolute amount of surplus available to support the world's urban population, and transport costs determine the extent to which surplus can be moved from more-productive to less-productive regions.

The history of ancient Rome provides a useful illustration of this point. At its peak in 200 AD the city contained over one million residents (including both citizens and slaves)—a population size that far exceeded the total surplus production capacity of the Italian peninsula. To satisfy its energy requirements the city was forced to import approximately 75-95% of its wheat supplies from distant territorial possessions. Given the state of transportation technology at the time, this was an extremely costly means of surplus acquisition and contributed to the financial ruin of the empire. With the relocation of the imperial capital to Constantinople in 330 AD and the subsequent collapse of the publically financed inter-regional grain distribution system, Rome's population plummeted to just fifty thousand inhabitants in 700 AD—a size much more in

line with the productive capacity of its hinterland (see Bairoch 1988 and Reader 2004).

The limitations on urban population growth imposed by agricultural productivity and transport costs largely explain the geography of early urban settlements, which emerged almost exclusively in areas naturally conducive to surplus food production (e.g. fertile river valleys) or locations with naturally low trade costs (i.e. on coasts and along rivers) (Childe 1950, Davis 1955, Bairoch 1988). These limitations also explain why the proportion of the world's urban population remained unchanged for so long. Increasing agricultural output in the pre-modern era was driven primarily by bringing more land under cultivation rather than by factor productivity growth, so although the global urban population may have edged up in absolute terms, it could not expand in *relative* terms because there was very limited improvement in surplus output.⁶ Moreover, the potential for regional specialization and exchange in agricultural goods was heavily restricted given that transportation costs remained well above the threshold that would have made large-scale trade in staple foodstuffs economically viable (Braudel 1984, Bairoch 1988).⁷

In sum, disease control and food security are required to keep mortality in check in urban areas. The rise and fall of cities and urban populations in the pre-industrial era can therefore be understood as a reflection of both shifting disease burdens and fluctuations in the capacity of individual settlements to secure adequate food supplies.

A confluence of social and technological changes in Northern Europe in the 18th and 19th centuries paved the way for European urbanisation by

⁶ Angus Maddison's historical estimates of world population and GDP indicate that per capita output increased from \$412 in 1AD to just \$606 in 1700 (expressed in 1990 International Geary-Khamis dollars). From this we can infer that factor productivity growth was marginal over this period. In other words, there was very little increase in energy surplus per capita.

⁷ The bulk of world trade in the pre-industrial era involved relatively lightweight, non-perishable and high-value items such as spices and luxury textiles (see Braudel 1984, Bairoch 1988).

dramatically improving food security and disease control, as well as increasing demand for labour in urban areas. Innovations such as nitrogen fertilizer, crop rotation and mechanization drove a surge in agricultural productivity (Bairoch 1988, Cameron 1997, Maddison 2007). The harnessing of inanimate sources of energy to fuel railroads, steamships and eventually automobiles, led to a dramatic reduction in transportation costs (Bairoch 1988, Crafts and Venables 2003). Improvements in hygiene, medical knowledge, maternal education, urban planning practices and the expanded availability of healthcare sparked a secular decline in mortality rates in urban and rural areas (Szreter 1997, Bloom and Sachs 1999, Reher 2004, Livi-Bacci 2007). Political-institutional changes such as the consolidation of private property rights, improved third-party contract enforcement and an expansion of the role of governments in the provision of public goods (i.e. healthcare, education and infrastructure) served to reinforce and sustain these trends (Szreter 1997, Cameron 1997, Maddison 2007). Collectively, these changes catalyzed a permanent shift in Europe from a Malthusian economy characterized by stagnant per capita income growth and high mortality to a modern growth regime characterized by secular improvements in factor productivity and life expectancy (Galor and Weil 1999). And this shift coincided with the emergence of rising demand for labour in urban areas as industrial manufacturing took root.

Against this backdrop of rising productivity, intensified regional trade and falling mortality, and a structural transformation in production the stage was set for European urbanisation.⁸ Between 1800 and 1900, the proportion of

⁸ In a cross-country statistical study, Bairoch and Goertz (1986) demonstrated that the pace of urbanization in nineteenth-century Europe was driven primarily by changes in agricultural productivity, by the pace of industrial growth and the expansion of trade. However, they found evidence that the most important factors driving urbanization varied over time within and between countries. In particular, their results concerning the role of agricultural productivity were ambiguous. In some models the coefficient was positive suggesting that rising output facilitated urbanization, while in others the coefficient was negative. They speculate that

Europe's population living in urban settlements nearly tripled (growing from around 10 percent to 30 percent), and by the turn of the millennium approximately 70 percent of the region's population lived in urban areas (Bairoch and Goertz 1986; United Nations 2010).

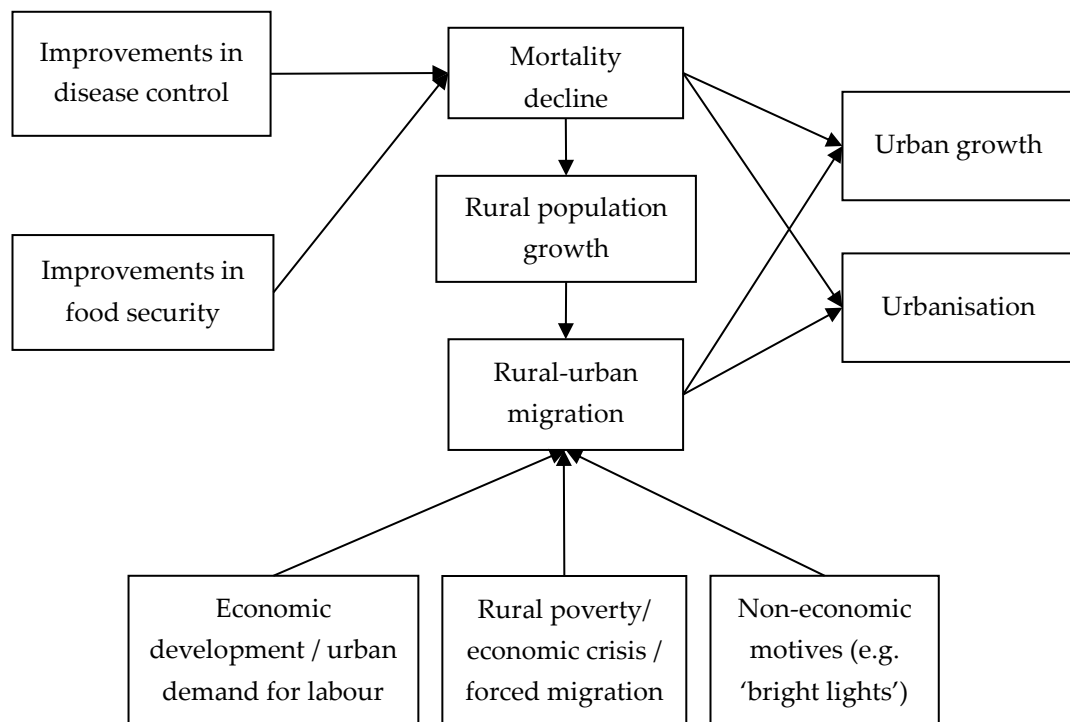
Through trade, colonialism and (in the latter half of the 20th century) international development assistance, many of the key technological and institutional developments that drove mortality decline in Europe were diffused to other regions, including sub-Saharan Africa. However, Europe's industrial success was not. The result in many regions has been improvements in disease control and food security, the onset of mortality decline, rapid population growth and urbanisation, even in places where economic development (in the form of expansion and diversification of output) has been limited. This indicates that mortality decline itself may be a sufficient condition for urbanisation and urban growth. According to Dyson (2010a), 'No population that has experienced a reduction in its death rate from a high level to a low level has failed to urbanize' (126). This hypothesis has not, however, been tested empirically using cross-country regression analysis.

Figure 2.6 provides a stylized illustration of how economic, demographic, sociological and historical perspectives on the dynamics driving urbanisation and urban population growth can be integrated into a single explanatory framework. Economic development may serve to stimulate rural-urban migration, but there are negative economic motives and many non-economic ones as well. As a result, a steady stream of rural migrants should be expected. Importantly, these migrants only become sources of population growth where birth rates exceed deaths. In turn, mortality decline is essentially a function of disease control and food security. Where these are achieved, mortality decline

agricultural success in certain regions resulted in the retention rather than release of rural labour.

can directly contribute to urban population growth by raising the rate of urban natural increase above zero, and indirectly by accelerating population growth in rural areas, which places pressure on natural resources and generally increases the pool of potential migrants. Similarly, mortality decline facilitates urbanisation not only by increasing migrant flows, but also transforming migrants from a source of urban population maintenance to a source of urban growth. If the net direction of migration is into urban settlements, which history suggests is indeed the case, this will ultimately serve to increase the proportion of the national population living in urban settlements resulting in urbanisation.

Figure 2.6 *An integrated framework for analysing urbanisation and urban growth*



In sum, mortality decline and subsequent population growth are clearly sufficient conditions for urban growth. If we accept the premise that there is, on balance, a net tendency towards in-migration into urban areas driven by a variety of economic and non-economic push and pull factors, mortality decline

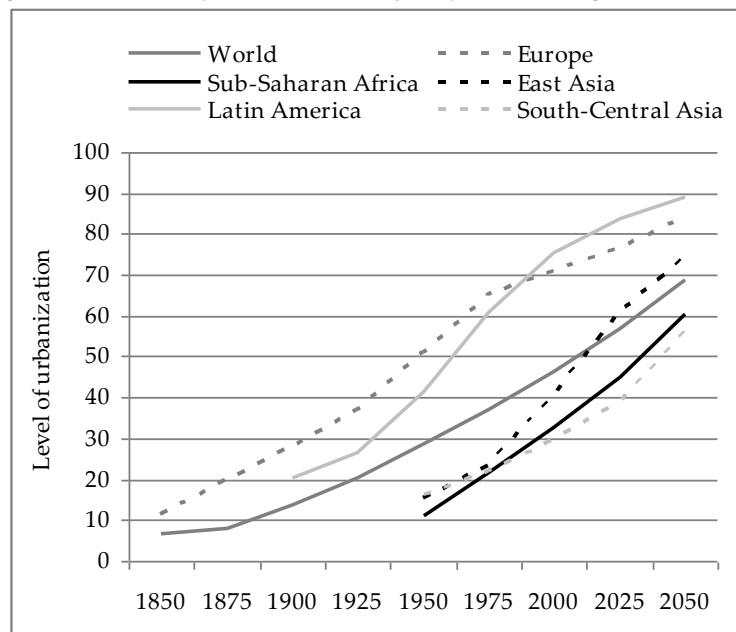
driven by improvements in disease control and food security can also be seen as a sufficient condition for urbanisation to occur in a population.

Using this integrated framework as a guide, I now turn my attention to accounting for the stylized facts of sub-Saharan Africa's urban transition, beginning with the relatively late onset of urbanisation and urban growth in the region, and the acceleration of both trends in the colonial era.

2.4 Geography, colonialism and early urbanisation in Africa

Archaeological evidence and oral histories confirm the presence of urban settlements in sub-Saharan Africa for over 2000 years (Anderson and Rathbone 2000). However, these settlements remained relatively small, few and far between in comparison to other regions of the world, and most proved ephemeral. As Figure 2.7 illustrates it was not until the middle of the 20th century that Africa's urban transition got underway.

Figure 2.7 *Levels of urbanisation by major world region, 1850-2050*



Sources: Grauman (1977) and United Nations (2010)

Building on the framework presented above, the late onset of Africa's urban transition may be explained by natural geographical endowments. Africa's climate, soils, topography and disease ecology represent considerable obstacles to surplus agricultural production (Diamond 1998, Bloom and Sachs 1999); a large land area-to-coastline ratio, few navigable rivers and low population densities are significant natural barriers to trade, contributing to exceptionally high transportation costs in the region (even today) and limited scope for specialization and innovation (Bloom and Sachs 1999); and climatic and ecological characteristics render Africa uniquely conducive to infectious and parasitic diseases, the consequences of which are evidenced by the fact that sub-Saharan Africa has consistently suffered the highest mortality rates in the world since comparable records became available in the 1950s (Bloom and Sachs 1999, Acemoglu, Johnson and Robinson 2001, Iliffe 2007). In other words, natural geographic endowments present significant obstacles to achieving the level of food security and disease control required to sustain urban settlement.

Despite the profound technological and institutional changes that have spurred urban transitions across the world over the past two centuries, it is still possible to detect the influence of geographical endowments on differential trajectories of urbanisation and urban growth. As noted above, access to surplus food supplies was a key constraint on early urbanisation. Prior to the advent of production and transport technologies that facilitated the boom in surplus food production and exchange that began in the 18th century, the two factors that determined a particular settlement's access to surplus was the agricultural potential of its immediate hinterland and transportation costs. We can therefore hypothesise that countries with greater agricultural potential and naturally lower transportation costs began urbanising earlier than those with limited agricultural potential and higher trade costs.

This hypothesis can be tested using an ordinary least squares (OLS) regression analysis in which a country's level of urbanisation is modelled as a

function of relatively time-invariant geographical characteristics that influence agricultural productivity and transportation costs. This is done by estimating the following equations:

$$(1) \quad (Uz1960)_i = \alpha + \beta_1(Coastline)_i + \beta_2(Waterways)_i + \beta_3(Soil\ potential)_i + \beta_4(CDR1960)_i + \beta_5(GDP\ 1960)_i + \varepsilon_i$$

$$(2) \quad (Up1960)_i = \alpha + \beta_1(Coastline)_i + \beta_2(Waterways)_i + \beta_3(Soil\ potential)_i + \beta_4(CDR1960)_i + \beta_5(GDP\ 1960)_i + \beta_6(Ln\ national\ pop)_i + \varepsilon_i$$

In equation (1) the dependent variable is the percentage of the population in country i living in urban areas in 1960. In equation (2) the dependent variable is absolute size of the urban population in country i in 1960. Values for the *Urban population (%)* variable were square root transformed and all urban population and national population estimates were log transformed in this analysis and the subsequent OLS models presented below.

In both equations, the key independent variables include the length of coastline in kilometres and total length of navigable waterways in kilometres (both log transformed), and soil quality (measured as the percentage of a country's land area that has soils that are very or moderately suitable for six key rain-fed crops). I also include the crude death rate for country i in 1960 and the log of GDP per capita in 1960 given that these variables are expected to account for a significant fraction of variation in levels of urbanisation and urban population. In equation (2) an added control for national population size is introduced due to the natural correlation between total population and urban population size (Davis and Henderson 2003). Ideally, this empirical 'endowment' model would also account for differential disease ecologies across countries. Unfortunately, a lack of readily available data from the pre-1800 era (i.e. prior to European colonial influence) renders this impossible. Full details of

all variables and sources can be found in Appendix A; descriptive statistics and a correlation matrix are presented in Appendix B.

Table 2.2 presents the results of these models based on a sample of 126 countries for which data are available. The results show that countries with better soil quality and more extensive ‘natural’ transportation infrastructure were both more urbanised (column 1) and had larger overall urban populations (column 2) in 1960 than countries that were less favourably endowed, as predicted. There is some colinearity in this model: countries with longer coastlines tend to have more kilometres of navigable waterways. While this obscures accurate interpretation of effect magnitudes for these variables, it does not affect the overall fit of the model.

Table 2.2 *Geography, urbanisation and urban population in 1960*

	Level of Urbanisation	Urban population
	(1)	(2)
Ln Coastline (km)	.049* (.028)	.054*** (.016)
Ln Waterways (km)	.045** (.022)	.036*** (.014)
Soil potential	.022** (.008)	.012*** (.004)
Crude death rate, 1960	-.058*** (.015)	-.023*** (.008)
Ln GDP per capita, 1960	1.507*** (.118)	.556*** (.064)
Ln national pop		.975*** (.034)
R-squared	.822	.945
Observations	126	126

Notes: Standard errors are in parentheses. Significance at the 1, 5 and 10 percent levels are indicated by ***, **, * respectively.

The case for causality in this model is fairly strong: the time-invariant characteristics of coastline, waterways and soil potential are clearly exogenous to urbanisation and urban population size in 1960. Moreover, the inclusion of the crude death rate and GDP per capita in 1960 as a control variables should

capture the influence of many omitted variables that might confound the influence of geography (such as the presence of public health programs or variation in access to antibiotics). While it is possible that these correlations are spurious, or driven by some important omitted variable, they are consistent with the argument that geographical endowments have had some influence on trajectories of urbanisation and urban growth. It is likely that the inclusion of disease burden data would improve the explanatory power of the model.

Improvements in food security and disease control—and hence mortality decline—began in the colonial era. In the early colonial period the slave trade, violence, the introduction of foreign pathogens and the disruption of traditional systems of production and networks of trade contributed to a shrinking of Africa's population (Iliffe 2007). However, after World War I (WWI) European powers began to invest more heavily in primary commodity production, launched health campaigns to combat epidemic diseases, expanded transport infrastructure and introduced new agricultural technologies and cultigens such as cassava, which is drought resistant and has become an important anti-famine crop across Africa (Iliffe 2007, Clapham 2006). While these changes collectively stimulated a secular decline in mortality rates in the region, urbanisation remained limited between WWI and World War II due to colonial restrictions on African mobility and residence in urban areas, poor living conditions in urban areas and limited waged employment opportunities.

After WWII colonial powers (especially Britain and France) changed tack and launched a 'modernization' drive designed to prepare colonies for eventual independence. This involved a significant expansion of public education and health services, further infrastructure development and some (limited) industrial investments (Cooper 2002, Iliffe 2007). Vaccination schemes led to a sharp reduction in mortality associated with epidemic diseases, child mortality rates began to fall due to better treatments for afflictions such as polio, measles, diarrhoea and malnutrition, and improved road and rail transport contributed

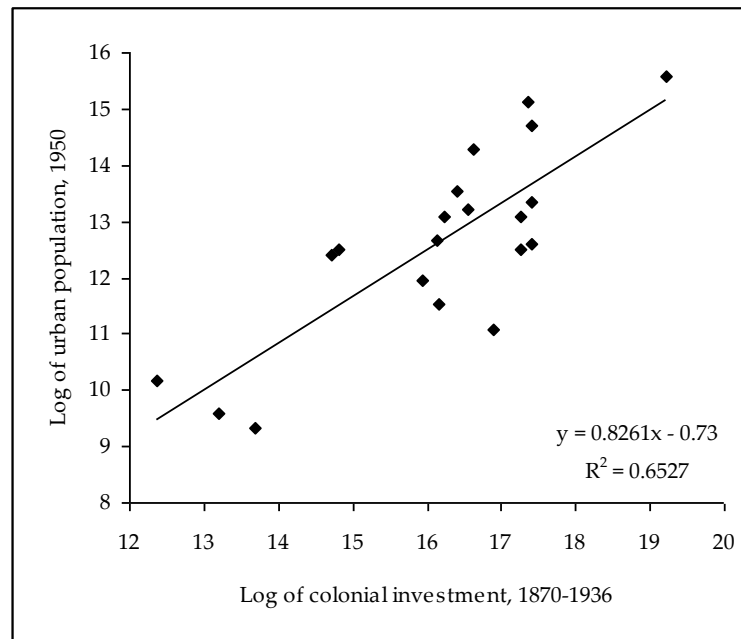
to reductions in famine related mortality by rendering affected areas more accessible to emergency aid (Iliffe 2007, Boone and Faguet 1998). As mortality rates fell, Africa's population began to grow rapidly. The gradual relaxation of restrictions on African mobility coupled with higher demand for labour in urban areas during and immediately after World War II accelerated rural-to-urban migration, which exacerbated poor housing conditions and drove consumer price inflation and unemployment—issues that proved instrumental in catalyzing the growth of the union movement, which played a pivotal role in securing independence in the region (Cooper 2002, Iliffe 2007).

In sum, Africa's urban transition was set in motion by technologies and institutions introduced in the late colonial period that improved food security and disease control, which in turn led to falling mortality rates. However, the nature and impact of colonialism varied widely across countries within the region, and this variation provides a means of assessing the relative impact of colonialism on urbanisation trends. We can hypothesise that those countries in which colonial powers were more economically and politically active experienced higher degrees of technological and institutional transfer and therefore more rapid mortality decline and urban population growth. To test this hypothesis we can use three separate indicators of colonial influence: relative colonial investment, an indicator of relative direct vs. indirect rule derived from legal records, and an indicator of colonial administrative depth.

Figures 2.8 and 2.9 present evidence that variation in levels of colonial capital investment in African territories is correlated with variation in early urbanisation in the region. In both figures the X-axis represents the total amount of publically listed capital investments in European colonial territories between 1870 and 1936, as catalogued by Frankel (1969). In Figure 2.8, the Y-axis represents the relative size of the urban population for the corresponding territory in 1950; in Figure 2.9 the Y-axis represents the proportion of the territory's population living in urban areas in 1950 (the earliest date for which

comparable figures are available). Despite the fact that only twenty observations are available, there is a clear correlation between early colonial investment and early urbanisation in the region.

Figure 2.8 *Colonial investment and urban population size in 1950*

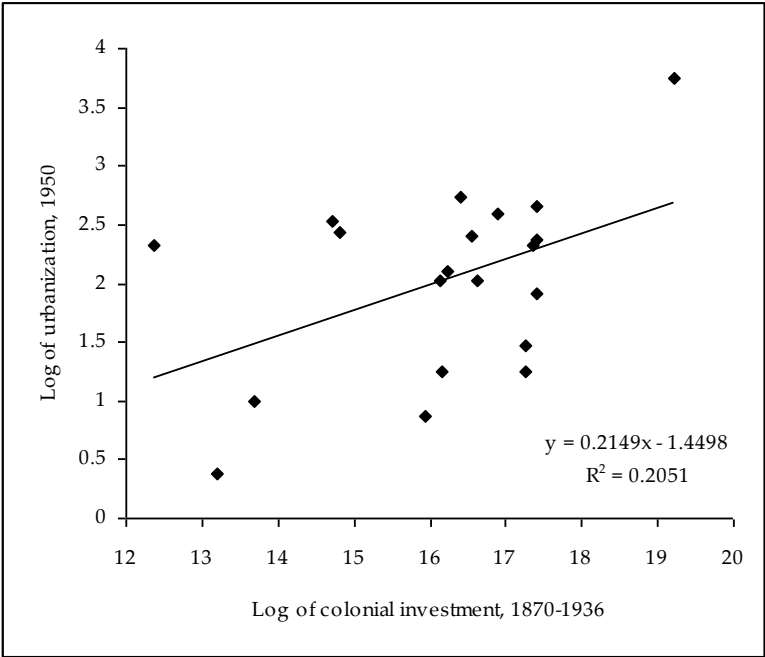


Notes for Figures 2.8 & 2.9: Colonial investment data is from Frankel (1969); population estimates are drawn from United Nations (2010). I have used only Frankel's estimates of publically listed capital investments for 20 colonial territories. As the boundaries of these territories do not correspond to the contemporary national boundaries used in UN population statistics population data were aggregated for all contemporary countries that correspond to Frankel's colonial territories.

The direction of causality assumed in Figure 2.8 could be challenged by the argument that colonisers invested more where there were larger African populations (and hence a larger pool of labour to exploit). Given that total population and urban population are highly correlated, this is a potentially valid criticism. However, given the paucity of pre-colonial urban settlements in the region, it is unlikely that colonizers invested in areas with existing urban populations, so the assumed causal link between colonial investment and urban population size is reasonable. Moreover, total population and levels of

urbanisation are not closely correlated. Consequently the assumed direction of causality in Figure 2.9 is robust to this challenge. In results not reported here, Frankel's colonial investment figures were also found to be negatively correlated with crude death rates in 1950 and positively correlated with income per capita in 1950, consistent with the hypothesis that colonial investment had the dual effect of reducing mortality and improving access to surplus food supplies.

Figure 2.9 Colonial investment and level of urbanisation in 1950



More evidence of colonial influence can be identified using OLS regression analysis. Table 2.3 presents a series of bivariate correlations between two different indicators of colonial influence (the independent variables) on the one hand and a range of variables that relate to disease control, food security and urbanisation (the dependent variables) on the other.

In the upper half of the table, the independent variable is a measure of 'indirect rule' in 33 former British colonies developed by Lange (2004). The indirect rule index reflects the percentage of legal cases settled by 'traditional' authorities as opposed to formal courts in 1955. The higher this percentage, the

more British authorities were relying on local power brokers to maintain order in their territories. Using this index, Lange (2004) has demonstrated that higher degrees of colonial indirect rule resulted in less effective public institutions in the postcolonial period. In the lower half of the table, the independent variable is the number of colonial civil servants per capita in British and French colonial territories in Africa circa 1936, as calculated by Richens (2009). This serves as a proxy for administrative depth. As with capital investment, it is reasonable to suppose that higher degrees of direct political rule and administrative depth resulted in greater technological and institutional transfer and diffusion, and hence more favourable conditions for early urbanisation.

The dependent variables in Table 2.3 include the infant mortality rate in 1960, food supply in 1960 (measured in calories per capita per day), the number of registered physicians per 1000 population around 1960, the average annual rate of change in the infant mortality rate in the 15 years after 1960, the level of urbanisation in 1960 and total urban population in 1960. Controls (apart from the necessary inclusion of national population in column 6) are omitted due to the small sample sizes of the colonial data and hence very restricted degrees of freedom.

The results indicate that higher degrees of indirect rule are associated with higher infant mortality, lesser food surplus and fewer physicians per capita in 1960 (columns 1a-6a), while greater administrative depth is associated with lower infant mortality rates, greater food surplus and more physicians per capita in 1960 (columns 1b-6b). The direction of causality in these correlations is not necessarily clear. As Acemoglu, Johnson and Robinson (2001) have argued, patterns of colonial settlement may have been influenced by the disease environment and agricultural potential of a region, so these correlations could be interpreted as suffering from reverse causality. In other words, colonizers may have invested economically and politically in territories with lower disease burdens and greater agricultural potential.

Table 2.3 *Colonial origins of variation in mortality, food security and early urbanisation trends*

	IMR 1960	Calories per capita	Physicians per 1000	Δ IMR 1960-1975	Urbanisati on, 1960	Urban population, 1960
Former British colonies						
	(1a)	(2a)	(3a)	(4a)	(5a)	(6a)
Indirect rule	.012*** (.002)	-.002*** (.001)	-.023*** (.004)	.026*** (.007)	-.044*** (.008)	-.022*** (.005)
Ln population						1.091*** (.073)
R-squared	.654	.259	.576	.299	.462	.889
Observations	33	31	33	33	33	33
Former African colonies						
	(1b)	(2b)	(3b)	(4b)	(5b)	(6b)
Col. Civ. Serv.	-.088* (.044)	.090*** (.029)	.690*** (.177)	-.458*** (.140)	.600** (.271)	.429** (.187)
Ln population						1.137*** (.129)
R-squared	.120	.252	.352	.269	.144	.735
Observations	31	31	30	31	31	31

Notes: Standard errors are in parentheses. Significance at the 1, 5 and 10 percent levels are indicated by ***, **, * respectively. See Appendix A for full details of sources and definitions of variables.

However, mortality decline in the independence period was more likely driven by the further diffusion of technologies and the consolidation of institutions introduced during the colonial period that affect public health, rather than the influence of existing conditions. As column 4 shows, African countries that had more robust colonial legal institutions and greater colonial administrative capacity experienced more rapid declines in infant mortality in the early postcolonial period than those that experienced less colonial institutional and administrative investment. In this case the direction of causality is clear: postcolonial *changes* in mortality cannot logically have driven colonial settlement patterns. Finally, columns 5 and 6 confirm the association demonstrated above between colonial capital investment and early urbanisation: the indirect rule and administrative depth indicators are both

significantly correlated with the size and percentage of a country's urban population in 1960.

While no single piece of this statistical mosaic provides definitive confirmation that urbanisation in African was historically inhibited by unfavourable geographic endowments and ultimately set in motion by technologies and institutions introduced by European colonizers, collectively the evidence provides significant support for these arguments.

2.5 Urbanisation and urban growth in the post-colonial era

The surge in urban populations that began in the late colonial period accelerated in the independence era due to a confluence of demographic, political and economic factors. The mortality decline that began in the late colonial era continued while fertility rates remained exceptionally high resulting in a population boom of historically unprecedented scale.⁹ Many countries experienced a surge in rural-urban migration in the early independence era—a postcolonial 'adjustment' effect—spurred by the elimination of residence restrictions in urban areas and a sharp increase in urban employment opportunities due to the expansion and Africanization of civil service administrations and investments in urban public works (Miner 1967, Jamal and Weeks 1988, Stren and Halfani 2001, Iliffe 2007). And economic growth rates in the region reached historic highs in this era, fuelled by a boom in public and private investment (much of which was provided by international actors) and strong growth in commodity exports (ibid). As a result, rates of urbanisation and urban population growth reached exceptional heights between 1960 and 1975 (see Table 2.4).

⁹ This lag between mortality decline and fertility decline is usually explained as a consequence of historical factors that have rendered high birth rates culturally desirable in the region (see Iliffe 2007 and Clapham 2009).

Table 2.4 *Demographic and economic trends in Africa*

	1960-1975	1975-1990	1990-2005
Urban population growth	5.06	4.57	4.04
Rate of urbanisation	2.53	1.77	1.45
GDP per capita growth	2.07	-0.56	0.45
Population growth	2.53	2.80	2.58

Notes: Calculated based on data from World Bank World Development Indicators Database, accessed January, 2012. GDP growth rate estimates based on real GDP per capita (constant 2000 US\$).

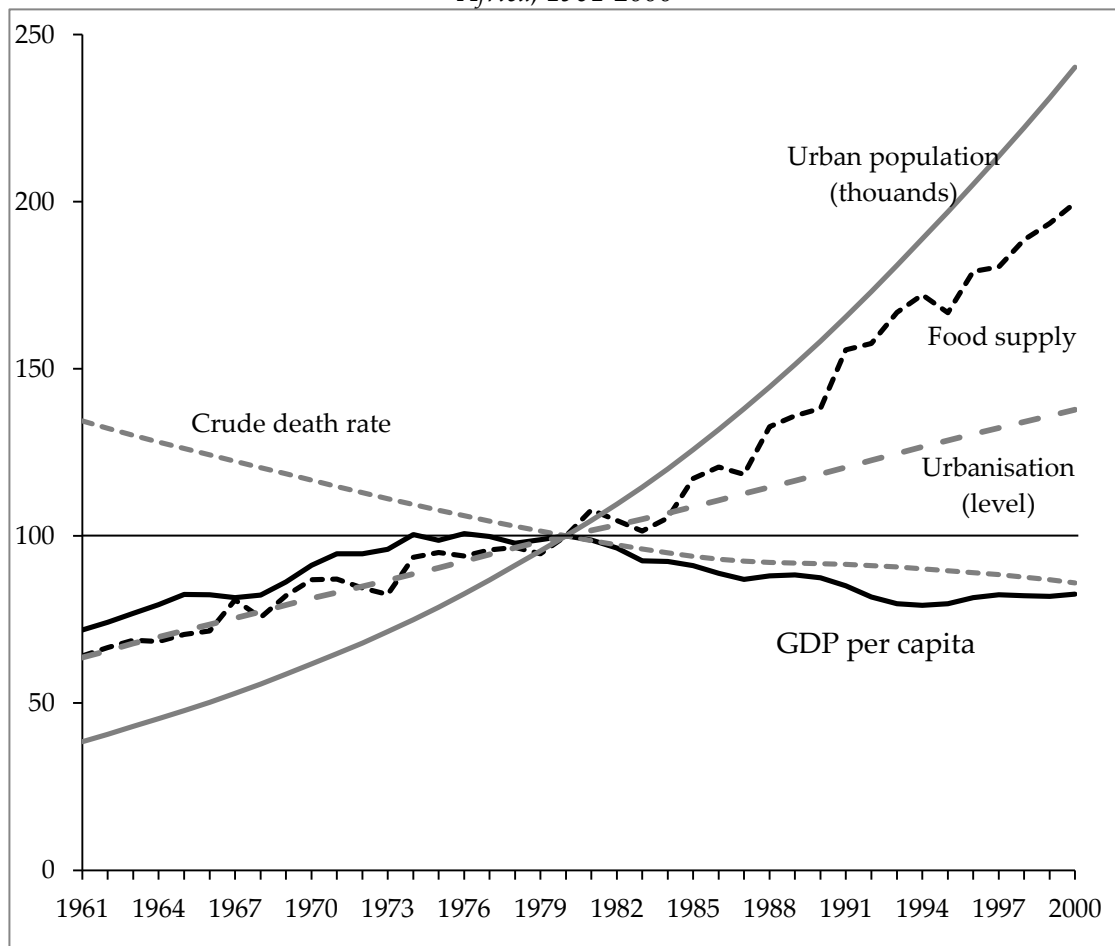
However, unsustainable fiscal expansion, poor macroeconomic management, deteriorating terms of trade and a global recession following the 1973 oil price shock resulted in a region-wide economic crisis. By the early 1980s sub-Saharan Africa was experiencing negative per capita income growth and fiscal retrenchment in the form of donor-imposed structural adjustment programmes. The consequences were severe in urban areas. Public and private sector employment contracted sharply, real wages declined, investments in housing and urban infrastructure came to a virtual standstill and the yawning rural-urban wage gap that arose in the early independence era essentially vanished (Jamal and Weeks 1988, Potts 1995, Weeks 1995, Becker and Morrison 1995). Yet urbanisation and urban growth rates remained generally high in the region, with a few notable exceptions. Drawing on the framework introduced above, this could be explained by continued mortality decline, which sustained high rates of population growth.

Figure 2.10 shows trends in size of the region's urban population, the amount of food available (measured as the total number of tons of cereals and starchy roots produced domestically and imported), the crude death rate and GDP per capita. All indices have been converted to index numbers with 1980 set as the base year (1980=100). See Appendix A for details of data sources.

The figure shows that food supplies generally kept pace with urbanisation and urban population growth, and mortality rates fell throughout the period, even as GDP per capita declined from the late 1970s. This is a very crude way of

testing the argument, but these region-wide trends are consistent with the view that mortality decline is sufficient to maintain urbanisation and urban population growth even in the face of economic contraction. All of these indicators are measured at the national level. To develop a more nuanced perspective it would be useful to have data on food supply, mortality rates and wages broken down by sector. Unfortunately, as noted above, these data are not available for a large cross-section of countries.

Figure 2.10 *Urban population, food supply, mortality and GDP per capita in sub-Saharan Africa, 1961-2000*

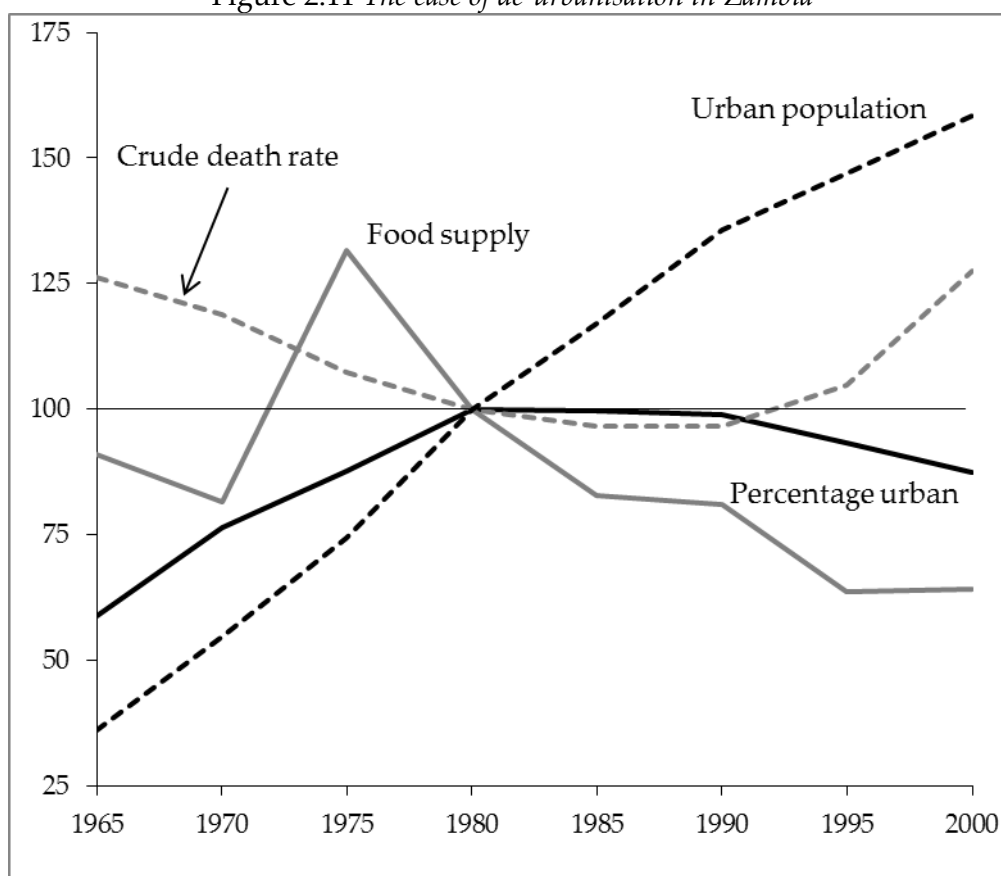


Notes: Regional population figures and crude death rate estimates are from the United Nations Population Division database accessed December 2013. Regional food supply data are from FAOSTAT online database, accessed June 2010. Food supply is the total number of tons of cereals (excluding beer) and starchy roots derived from both local production and imports. Regional GDP per capita estimates are in constant 2000 US\$ and are from World Bank World Development Indicators database, accessed January 2014. All series were converted to index numbers with 1980 serving as the base year (1980=100).

It is worth considering the most well-known exception to this overall trend of persistent urbanisation and urban population growth in the face of economic crisis. Zambia actually experienced *de*-urbanisation in the 1980s and 1990s. This is generally attributed to a severe economic crisis and the effects of structural adjustment on urban income and livelihoods (Potts 1995), yet many other countries experienced similar crises without *de*-urbanisation. However, Zambia also experienced a sharp decline in food supplies and a reversal in the trend of declining mortality beginning in the late 1970s due to a crisis in the public health sector, deteriorating nutrition, and increases in malaria and HIV/AIDS related mortality (Dyson 2003; Garenne and Gakusi 2006). Evidence indicates that the crisis was particularly acute in urban areas: under-five mortality rates rose much faster in urban areas than in rural ones between the mid-1970s and early 1990s and fell faster (from the mid-1990s) in rural areas than in urban ones (Garenne and Gakusi 2006).

As Figure 2.11 illustrates, these trends map directly onto Zambia's episode of *de*-urbanisation. While some of the factors that contributed to rising mortality rates were a direct consequence of Zambia's economic crisis, others (such as rises in malaria and HIV/AIDS mortality) were independent of it (Garenne and Gakusi 2006). In other words, Zambia experienced a unique confluence of misfortunes which appear to have undermined food security and disease control in urban areas—the prerequisites for urbanisation—and in this case resulted in a rare case of *de*-urbanisation. It is worth noting, however, that despite a negative shift in the proportion of the population living in urban areas, Zambia's urban population continued to grow in absolute terms. This is unlikely to be a consequence of in-migration, given well-documented evidence of out-migration during this period (see Potts 1995). A more likely explanation is that Zambia's rate of urban natural increase remained positive during this period despite an apparent uptick in urban mortality rates.

Figure 2.11 *The case of de-urbanisation in Zambia*



Notes: National population figures and crude death rate estimates are from the United Nations Population Division database accessed December 2013. Food supply data are from FAOSTAT online database, accessed June 2010. Food supply is the number of tons of cereals (excluding beer) and starchy roots per capita derived from both local production and imports. All series were converted to index numbers with 1980 serving as the base year (1980=100).

In sum, Africa's urban transition in the early postcolonial period was driven by a combination of secular mortality decline set in motion in the late colonial period, a postcolonial adjustment involving the Africanisation and expansion of employment opportunities in urban areas, and an early investment drive. It was sustained through the recessionary years of 1975-2000 by persistent demographic expansion. In other words, urbanisation without growth and exceptionally high urban growth rates in the late twentieth century are both explicable once Africa's post-war political and population dynamics are taken into account.

As a test of this argument, I estimate the following models using ordinary least squares:

$$(3) \quad (\Delta Urbanisation)_i = \alpha + \beta_1(\Delta Crude\ death\ rate)_i + \beta_2(Crude\ birth\ rate_{t1})_i + \beta_3(\Delta GDP\ per\ capita)_i + \beta_4(Agriculture)_i + \beta_5(SSA\ dummy)_i + \beta_6(SSA * (1960/75))_i + \beta_7(SSA * (1975/90))_i + \beta_8(Urbanisation_{t1})_i + \varepsilon_i$$

$$(4) \quad (\Delta Urban\ population)_i = \alpha + \beta_1(\Delta Crude\ death\ rate)_i + \beta_2(Crude\ birth\ rate_{t1})_i + \beta_3(\Delta GDP\ per\ capita)_i + \beta_4(Agriculture)_i + \beta_5(SSA\ dummy)_i + \beta_6(SSA * (1960/75))_i + \beta_7(SSA * (1975/90))_i + \beta_8(Urbanisation_{t1})_i + \varepsilon_i$$

In equation (3) the dependent variable is the compound average annual rate of urbanisation in country i ; in equation (4) the dependent variable is the compound average annual rate of urban population growth. In both equations the key independent variables include the average annual rate of change in the crude death rate of country i , the crude birth rate at the beginning of each period (to control for variations in fertility and hence the pace of overall population growth), the average annual rate of per capita income growth, and the sectoral composition of output, measured as the average percentage of agriculture value-added in GDP over the relevant period.¹⁰

According to the theory outlined above, changes in crude death rates are expected to be negatively correlated with rates of urbanisation and urban growth, changes in GDP per capita should show a positive sign and agriculture as a percentage of GDP should be negatively correlated (as a result of labour being retained in the rural sector). The model also incorporates a dummy variable for sub-Saharan African countries (SSA dummy) to determine whether or not countries in the region share some unobserved characteristics

¹⁰ In most countries estimates of agricultural output as a percentage of value-added are not available for all years. I therefore used the average of all available estimates for each country and period. This may result in some bias by under or over-estimating the average due to missing data points. Given that this indicator of the structural output of an economy tends to change relatively slowly this bias should be limited from a statistical standpoint.

that account for persistent urbanisation and urban growth in the absence of economic growth.

These models are estimated with two samples. The first is an unbalanced pooled panel dataset with 347 observations from 146 countries for which all necessary data for at least one period is available. Descriptive statistics and a correlation matrix of explanatory variables are presented in Appendix B. There are 15-year intervals in the dataset that roughly correspond to global economic trends (1960-1975, 1975-1990 and 1990-2005) in order to limit the influence of short-term fluctuations in economic and demographic conditions and a sample of countries. The second sample is also an unbalanced pooled panel consisting of observations from 40 countries in sub-Saharan Africa for which all necessary data for at least one period are available. The models are estimated with both samples.

This arrangement also permits the inclusion of two more control variables: interactive regional dummies to determine whether there was a significant post-colonial adjustment effect associated with the 'Africanisation' of employment in the public and private sectors (see Jamal and Weeks 1988; Fay and Opal 2000). These are $SSA^*(1960/75)$ covering the 1960-75 period and $SSA^*(1975/90)$ covering the 1975-90 period. For the African sample the $SSA^*(1960/75)$ and $SSA^*(1975/90)$ dummy variables serve simply as period dummy variables. Finally, as per convention, the initial level of urbanisation in each period is controlled for given that the rate of urbanisation in a country naturally declines as the proportion of the population living in urban areas increases. The results are presented in Table 2.5.

As anticipated, there is a negative and statistically significant correlation between changes in crude death rates and rates of both urbanisation and urban growth across all specifications and both samples. Growth in GDP per capita is positively and statistically significantly correlated at the 1% level with rates of urban population change in the global sample. However, the correlation

between growth and urbanisation is not significant in the Africa-only sample, while the correlation between growth and urban population growth remains positive and significant at the 5% level.

Table 2.5 *Determinants of urbanisation and urban growth rates: pooled OLS estimates*

	All countries		Sub-Saharan Africa	
	Urbanisation rate	Urban growth rate	Urbanisation rate	Urban growth rate
	(1)	(2)	(3)	(4)
Δ Crude death rate	-.157*** (.043)	-.345*** (.051)	-.268*** (.082)	-.271*** (.089)
Crude birth rate _{it}	.008 (.008)	.078*** (.009)	-.120*** (.036)	-.023 (.039)
Δ GDP per capita	.145*** (.024)	.143*** (.028)	.073 (.051)	.125** (.055)
Agriculture	-.007 (.005)	-.025*** (.007)	-.011 (.011)	-.017 (.012)
SSA dummy	.336 (.221)	.740*** (.259)		
SSA*(1960/75)	1.570*** (.273)	1.406*** (.320)	.949** (.384)	1.010** (.416)
SSA*(1975/90)	.634** (.254)	.629** (.297)	.531 (.340)	.734** (.369)
Urbanisation _{it}	-.335*** (.051)	-.280*** (.060)	-.843*** (.131)	-.679*** (.142)
Constant	2.632 (.516)	1.838*** (.605)	11.83*** (1.971)	8.982*** (2.137)
R-squared	.575	.731	.586	.546
Observations	347	347	97	97

Notes: Standard errors are in parentheses. Significance at the 1, 5 and 10 percent levels are indicated by ***, **, * respectively. Population statistics and vital rates are from the United Nations Population division database, accessed January 2014. Crude death and birth rates are per 1000. Urbanisation estimates were square-root transformed to normalise the sample distribution. GDP per capita and agriculture value-added as a percentage of GDP are from the World Bank World Development Indicators database, accessed January 2014. GDP per capita is measured in constant 2005 US\$.

Agriculture as a percentage of GDP shows a consistently negative sign, as expected, but is only statistically significant in column 2. The SSA dummy is positive in columns 1 and 2, but only significant in column 2. This suggests that there are some unobserved characteristics of countries in the region which are

influencing the pace of urban population change. More research is clearly required to account for this.

The period interaction dummies are both positive and significant in the global sample. In the Africa-only sample the $SSA^*(1960/75)$ is positive and significant in both models, while the $SSA^*(1975/90)$ is only significant in the second model (column 4). Nevertheless, the fact that the $SSA^*(1960/75)$ coefficient is larger in magnitude and significance than that of the $SSA^*(1975/90)$ dummy in all models provides support for the argument that there was a significant post-colonial adjustment effect that abated with time, albeit by no means conclusively.

Overall, these results show a strong correlation between mortality decline and urban population change and a positive but less robust association between economic growth and urban population change, which is consistent with the arguments outline above. However, the design of these models precludes definitive statements about causation. It is possible, for example, that urbanisation and urban population growth accelerate mortality decline, or that there are unobserved factors driving both results.

A second test examining the determinants of changes in *levels* of urbanisation and urban population size serves as a robustness check. In this case, the model is designed to test whether or not lagged values of the independent variables of interest add predictive power to a model that includes lagged values of the dependent variables as independent variables.¹¹ I examine whether or not changes in crude death rates and GDP growth rates between t_1 and t_2 help to predict levels of urbanisation and urban population size at time t_2 when levels of urbanisation and urban population size at time t_1 are controlled for. The functional form of the models can be expressed by the following equations:

¹¹ This approach follows the logic (although not the exact form) of a 'Granger causality test' (see Granger 1969 and Bloom, Canning and Fink 2008). A variable X can be said to 'Granger-cause' Y if X at time t-1 (X_{t-1}) explains variation in Y at time t (Y_t) when Y at time t-1 (Y_{t-1}) is included as a control variable on the right hand side of the equation.

(5)

$$\begin{aligned} & (Urbanization)_{it2} \\ &= \alpha + \beta_1(\Delta Crude\ death\ rate)_i + \beta_2(Crude\ birth\ rate_{t1})_i \\ &+ \beta_3(\Delta GDP\ per\ capita)_i + \beta_4(Agriculture)_i + \beta_5(SSA\ dummy)_i \\ &+ \beta_6(SSA * (1960/75))_i \\ &+ \beta_7(SSA * (1975/90))_i + \beta_8(Urbanisation_{t1})_i + \varepsilon_i \end{aligned}$$

(6)

$$\begin{aligned} & (Urban\ population)_{it2} \\ &= \alpha + \beta_1(\Delta Crude\ death\ rate)_i + \beta_2(Crude\ birth\ rate_{t1})_i \\ &+ \beta_3(\Delta GDP\ per\ capita)_i + \beta_4(Agriculture)_i + \beta_5(SSA\ dummy)_i \\ &+ \beta_6(SSA * (1960/75))_i \\ &+ \beta_7(SSA * (1975/90))_i + \beta_8(Ln\ urban\ population_{t1})_i + \varepsilon_i \end{aligned}$$

The data are divided into the same three 15-year periods as in the previous models. Given that past levels of urbanisation and urban population size explain over 90% of variation in contemporary levels, our independent variables of interest must be robustly correlated with our dependent variables to exhibit statistical significance. Descriptive statistics and a correlation matrix of explanatory variables are presented in Appendix B. The results of this test are presented in Table 2.6.

Again, the findings are consistent with the arguments presented above: changes in crude death rates between the beginning and end of each 15-year period are negatively and significantly correlated with levels of urbanisation and urban population size at the end of each period. In this case reverse causality cannot be driving the result; a country's level of urbanisation at time $t2$ cannot have influenced mortality decline between $t1$ and $t2$. Nevertheless, omitted variables could still be driving the results.¹²

¹² However, recent analysis by Bandyopadhyay and Green (2013) use different samples and estimation strategies, including an instrumental variables approach and arrive at the same conclusion: mortality decline is robustly and causally associated with urbanisation.

As in the previous model, GDP growth shows a consistently positive sign and is statistically significant in the global sample. In the Africa-only sample it is not significantly correlated with urbanisation and weakly correlated with urban population size. Agriculture is negatively and significantly correlated with levels of urbanisation in both samples, but uncorrelated with urban population size. Once again the dummy variable for sub-Saharan African countries is positively and significantly correlated with urban population size, suggesting there are some significant unobserved factors influencing urban population growth. And once again the period dummy variables indicate that there were temporally specific influences resulting in more rapid changes in the size of urban populations in the early independence period, and that these appear to have diminished with time, which is consistent with the view that there was a postcolonial adjustment effect.

Overall, these results are consistent with the hypothesis that mortality decline is a significant determinant of both absolute and relative changes in urban population size. Although changes in GDP per capita appear to be less consistently and significantly correlated with urbanisation and urban growth in African countries this does not mean that fluctuations in economic opportunities do not significantly affect migration trends. Indeed, GDP estimates in Africa are notoriously poor (Jerven 2013), so estimates of annual change need to be treated with caution. Moreover, these official statistics do not capture economic activity in the informal sector, which by some estimates constitutes over 70% of economic activity in the regions (ILO 2009). Consequently it is impossible from these regression models to make any definitive statement about the contribution of economically motivated rural-urban migration in driving urbanisation. The only firm conclusion is that mortality decline matters, and that rates of urbanisation and urban population growth in sub-Saharan Africa were particularly fast between 1960 and 1990 relative to trends in other regions, and relative to the post-1990 period in Africa.

Table 2.6 *Determinants of changes in levels of urbanisation and urban population size:
pooled OLS estimates*

	All countries		Sub-Saharan Africa	
	Urbanisation _{t2}	Urban population _{t2}	Urbanisation _{t2}	Urban population _{t2}
	(1)	(2)	(3)	(4)
Δ Crude death rate	-.050*** (.017)	-.051*** (.008)	-.095*** (.030)	-.037*** (.014)
Crude birth rate _{t1}	.012*** (.003)	.013*** (.001)	-.034** (.013)	.005 (.006)
Δ GDP per capita	.055*** (.009)	.026*** (.004)	.023 (.019)	.017* (.009)
Agriculture	-.007*** (.002)	-.001 (.001)	-.007* (.004)	.000 (.002)
SSA dummy	.115 (.085)	.113*** (.040)		
SSA*(1960/75)	.302*** (.105)	.254*** (.049)	.297** (.140)	.180*** (.064)
SSA*(1975/90)	.183* (.097)	.118*** (.046)	.227* (.124)	.090 (.059)
Urbanisation _{t1}	.943*** (.020)		.884*** (.048)	
Ln urban pop _{t1}		.993*** (.005)		.926*** (.019)
R-squared	.954	.992	.906	.976
Observations	347	347	97	97

Notes: Standard errors are in parentheses. Significance at the 1, 5 and 10 percent levels are indicated by ***, **, * respectively. See notes for Table 2.5 for data sources.

2.6 Conclusion

Development economists and policy makers have generally interpreted the process of urbanisation through the lens of a dual-economy model of development in which cities expand due to rural-urban migration driven by expectations of employment in urban areas. When it became clear that urbanisation and urban population growth was outpacing formal sector job creation in urban areas, the policy response was to discourage migration (see

Chapter 3). In other words, Africa's urban transition was seen as abnormal and undesirable from a developmental standpoint.

In this chapter I have argued and provided evidence that urbanisation and urban growth are also intrinsically associated with demographic processes that can become de-linked from economic ones. Improvements in disease control and food security can lead to a reduction in mortality rates, which in itself may be sufficient to drive both urbanisation and urban growth. Although such improvements often accompany the expansion and diversification of an economy's output (i.e. economic development), these processes are not intrinsically linked.

In the case of sub-Saharan Africa, colonialism, trade and aid brought key technological and institutional innovations that facilitated disease control and food security, which in turn stimulated a secular decline in mortality rates and a population boom. This in turn set in motion rapid urban population growth and a steady rise in the proportion of the regional population living in urban areas. In some extreme cases, such as Zambia, a contraction in food supplies and resurgence of infectious diseases saw urbanisation temporarily reverse course. But even Zambia's urban population continued to grow in absolute terms.

This latter observation is important for policymakers. In many respects, the challenges of urban expansion are more directly related to the absolute number of people living in cities rather than the proportion of the national population living in cities. And the evidence suggests that urban natural increase contributes more to urban population growth than migration. Moreover, migration restriction policies have generally failed to yield significant reductions in urban population growth.

For governments interested in alleviating demographic pressure in urban areas, a more rational policy option is one targeted at encouraging fertility decline in order to reduce population growth rates. While fertility decline is a natural

consequence of urbanisation, interventions such as voluntary family planning initiatives may serve to accelerate the process and ease the strains associated with rapid urban population growth in the region.

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Appendix A

Data description and sources

Variable	Description	Source
Urbanisation (%) (Tables 2.3, 2.5, 2.6)	Percentage of national population residing in urban areas	United Nations Population Division, World Population Prospects: the 2009 Revision (2010)
Urban population (Tables 2.3, 2.5, 2.6)	Log of the absolute size of a country's urban population in 1000's	United Nations Population Division, World Population Prospects: the 2009 Revision (2010)
Ln national population (Tables 2.3)	Log of the absolute size of a country's population in 1000's	United Nations Population Division, World Population Prospects: the 2009 Revision (2010)
World population 1000-2000 AD (Fig.2.5)	Population in millions	Maddison, Angus (2009) Historical statistics: World Population, GDP and Per Capita GDP, 1-2003 AD (March 2009). Available online at: http://www.ggdc.net/maddison/
GDP per capita 1000-2000 AD (Fig. 2.5)	Real GDP per capita in 1990 International Geary-Khamis dollars	Maddison, Angus (2009) Historical statistics: World Population, GDP and Per Capita GDP, 1-2003 AD (March 2009). Available online at: http://www.ggdc.net/maddison/
Historical urbanisation estimates (Fig. 2.5, 2.7)	Percentage of world population residing in urban areas	Grauman, John V. (1977) 'Orders of magnitude of the world's urban population in history', Population Bulletin of the United Nations No.8 -1976, New York: United Nations.
Ln Coastline (km)	Log of kilometres of coastline	CIA World Factbook (various years)
Ln Waterways (km)	Log of navigable waterways	CIA World Factbook (various years)
Soil potential	Percentage of land area with soil very or moderately suitable for 6 key rainfed crops	Gallup, John L. and Jeffrey D. Sachs, with Andrew Mellinger, "Geography and Economic Development" (CID Working Paper No. 1, March 1999). Available at: http://www.cid.harvard.edu/ciddata/ciddata.html
Colonial investment, 1870-1936 (Fig. 2.8, 2.9)	Sum of publically listed capital invested in African colonial territories between 1870 and 1936, calculated in pounds sterling	Frankel, S. Herbert (1969) Capital Investment in Africa: Its Course and Effects, New York: Howard Fertig
Indirect rule (Table 2.3)	Percentage of legal cases adjudicated by 'traditional' authorities in British colonies, 1955	Lange, Matthew K. (2004) 'British Colonial Legacies and Political Development', World Development, Vol. 32, No. 6: 905-922
Col. Civ. Serv. (Table 2.3)	Colonial civil servants per capita in African territories c. 1936	Richens, Peter (2009) 'The Economic Legacies of the 'Thin White Line': Indirect Rule and the Comparative Development of Sub-Saharan Africa', Economic History Working Paper No. 131, London School of Economics & Political Science.
IMR 1960 (Table 2.3)	Infant mortality rate in 1960	United Nations Population Division, World Population Prospects: the 2008 Revision (2009)

Calories per capita (Table 2.3)	Average available calories per capita per day in 1960	Food and Agricultural organization, available at http://faostat.fao.org
Physicians per 1000 (Table 2.3)	Physicians per 1000 population around 1960. Missing values were replaced by nearest available year	World Bank World Development Indicators online, accessed June 2011. Available at: http://data.worldbank.org/data-catalog/world-development-indicators
Δ IMR 1960-1975 (Table 2.3)	Average annual rate of change in infant mortality rate between 1960 and 1975	Author calculations based on data from United Nations Population Division, World Population Prospects: the 2008 Revision (2009)
Food supply (Fig. 2.10)	Sum of domestically produced and imported cereals (excluding beer) and starchy roots in tonnes	Food and Agricultural organization, FAOSTAT database. Available at http://faostat.fao.org
Food supply (Fig.2. 11)	Available tonnes per capita of cereals and starchy roots	Food and Agricultural organization, FAOSTAT database. Available at http://faostat.fao.org
Crude death rate (Fig.2. 10, 2.11, Table 2.5, 2.6)	Deaths per 1000 population	World Bank World Development Indicators online, January 2014.
Crude birth rate (Table 2.5 & 2.6)	Births per 1000 population	World Bank World Development Indicators online, January 2014.
GDP per capita (Table 2.5 & 2.6)	Natural log of GDP per capita in constant 2005 US\$	World Bank World Development Indicators online, January 2014.
Agriculture (% of GDP)	Average of agriculture value-added as a percentage of GDP. Calculated for three 15-year periods (1960-1975, 1975- 1990, 1990-2005). Average taken of all available country-year estimates.	World Bank World Development Indicators online, accessed June 2011. Available at: http://data.worldbank.org/data-catalog/world-development-indicators

Appendix B

Descriptive statistics and correlation matrices

Table B1 *Descriptive statistics for Table 2.2*

Variable	Obs	Mean	Std. Dev.	Min	Max
Ln Coastline (km)	126	5.88	3.21	.00	12.22
Ln Waterways (km)	126	5.21	3.69	.00	11.73
Soil potential	126	33.24	9.84	5.23	61.84
Crude death rate, 1960	126	17.64	7.33	5.70	36.45
Ln GDP per capita, 1960	126	7.51	.985	5.97	10.40
Ln national pop	126	15.50	1.61	10.71	20.32
Square root of urbanisation (%), 1960	126	5.34	2.09	1.41	9.62
Ln urban population, 1960	126	14.06	1.93	9.52	18.66

Table B2 *Descriptive statistics for Tables 2.5 and 2.6*

Variable	Obs	Mean	Std. Dev.	Min	Max
ΔCrude death rate	347	-1.18	1.67	-8.30	5.65
Crude birth rate _{t1}	347	32.52	13.34	.00	55.95
Δ GDP per capita	347	1.66	2.47	-9	17
Agriculture	347	19.75	15.36	.12	69.60
SSA dummy	347	.28	.449	0	1
Urbanisation _{t1}	347	6.35	1.99	1.41	10.00
Urbanisation _{t2}	347	6.88	1.83	1.79	10.00
Urbanisation rate	347	1.33	1.57	-1.96	8.97
Urban growth rate	347	3.13	2.31	-1.66	11.93
Ln urban population _{t1}	347	14.49	2.09	9.58	19.56
Ln urban population _{t2}	347	14.96	2.01	9.65	20.08

Table B3 *Correlation matrix for Table 2.2*

	Ln Coastline (km)	Ln Waterways (km)	Soil potential	Crude death rate, 1960	Ln GDP per capita, 1960	Ln national pop
Ln Coastline (km)	1					
Ln Waterways (km)	.213	1				
Soil potential	-0.07	0.00	1			
Crude death rate, 1960	-.350	-0.14	-0.01	1		
Ln GDP per capita, 1960	.413	0.13	-0.12	-.688	1	
Ln national pop	.354	.547	0.10	-0.15	-0.02	1

Table B4 *Correlation matrix for Tables 2.5 and 2.6*

	Δ Crude death rate	Crude birth rate t_1	Δ GDP per capita	Agricultur e	SSA dummy	Urbanisati on $_{t1}$	Ln urban pop $_{t1}$
Δ Crude death rate	1						
Crude birth rate $_{t1}$	-0.497	1					
Δ GDP per capita	0.004	-0.215	1				
Agriculture	-0.277	0.661	-0.196	1			
SSA dummy	-0.017	0.625	-0.236	0.532	1		
Urbanisation $_{t1}$	0.288	-0.692	0.066	-0.774	-0.567	1	
Ln urban pop $_{t1}$	0.062	-0.304	0.067	-0.264	-0.281	0.41	1

Chapter Three

The political economy of slums in sub-Saharan Africa

Over 800 million people in Africa, Asia and Latin America live in slums. Why? I argue that slums are a result of 'disjointed modernization' and show that roughly 70% of cross-country variation in slum incidence is explained by demographic, economic and institutional factors. I trace the origins of disjointed modernization in sub-Saharan Africa back to the colonial period and show that colonial era investments and institutions are reflected in contemporary cross-country variation in slum incidence. I argue that status quo interests and the rise of an anti-urbanisation bias in development discourse have inhibited investment and reform in the post-colonial era.

3.1 Introduction

According to UN-Habitat (2008) over 800 million people in Africa, Asia and Latin America live in slums—i.e. urban areas characterised by some combination of tenuous dwelling structures, overcrowding and lack of access to adequate water and sanitation facilities. Improving the lives of slum dwellers is one of the most pressing development challenges of the 21st century. United Nations projections suggest that all of the world's population growth in the next 50 years will be absorbed by towns and cities in developing regions and World Bank research has shown that urban poverty is growing even as rural

poverty has begun to decline (UN 2012; Ravallion, Chen and Sangraula 2007). Despite these trends, surprisingly little systematic comparative research has been devoted to understanding the dynamics of urban poverty and development in recent decades.

The “challenge of slums” is particularly acute in sub-Saharan Africa. Although the region contains just 13% of the urban population of developing regions it hosts 25% of the slum population of developing regions according to UN-Habitat estimates (2008). Over 60% of sub-Saharan Africa’s urban population lives in slum conditions; the highest level of ‘slum incidence’ of any major world region and significantly higher than the developing region average of 32.7% (see Table 3.1).

This chapter provides a systematic analysis of the slums, drawing together a range of quantitative and qualitative evidence to account for the emergence and persistence of slums. In contrast to much of the literature on the topic, which portrays slums as either a symptom of modernization or a consequence of market failure, I highlight the historical and political dynamics that have resulted in differential urban development trajectories across countries within Africa and the developing world more generally.

I begin by constructing an empirical model of slum incidence to test the ‘disjointed modernization’ hypothesis implied by the existing literature. Using ordinary least squares regression analysis I show that about 70% of contemporary cross-country variation in slum incidence is accounted for by variations in urban population growth rates, economic conditions and institutional quality, as predicted by this hypothesis. However, I argue that identifying the contemporary correlates of slum incidence does not amount to a convincing causal explanation for the scale and diversity of the phenomenon. For that we must identify the origins of divergence in urban economic and institutional development across countries.

Table 3.1 *Slum incidence by major world region*

	Slum population as % of urban population				
	1990	1995	2000	2005	2010
Developing Regions	46.1	42.8	39.3	35.7	32.7
Northern Africa	34.4	28.3	20.3	13.4	13.3
Sub-Saharan Africa	70.0	67.6	65.0	63.0	61.7
Latin America & the Caribbean	33.7	31.5	29.2	25.5	23.5
Eastern Asia	43.7	40.6	37.4	33.0	28.2
Southern Asia	57.2	51.6	45.8	40.0	35.0
South-eastern Asia	49.5	44.8	39.6	34.2	31.0
Western Asia	22.5	21.6	20.6	25.8	24.6

Source: UN-Habitat (2008)

To that end, I trace the roots of contemporary variation in slum incidence in sub-Saharan Africa back to the colonial era, which represents a critical juncture in the history of urban development in the region. Generally speaking, colonial investments in urban infrastructure, housing and economic diversification were limited, and the systems of urban governance that were established were highly centralized and ad hoc. Towns and cities were essentially designed to facilitate the extraction of primary commodities and protect the interests and lifestyles of a European minority. However, urban investment and institutional development varied across Africa depending upon the depth of political and economic interests at play. I show that this variation in colonial investment and institutional development is correlated with contemporary variation in slum incidence.

Finally, I turn my attention to the mechanisms of path dependency that have served to perpetuate colonial era patterns of urban development. The proliferation of slum settlements in sub-Saharan Africa is de facto evidence of persistent government failure to invest in urban development and cultivate effective institutions for urban management. Understanding this failure is the

key to developing a genuinely causal explanation of the slum phenomenon in Africa.

I argue that the ad hoc governance arrangements and infrastructure deficiencies bequeathed by colonial administrations created complex coordination problems for postcolonial governments, but also generated opportunities for postcolonial political and economic entrepreneurs to cultivate instrumental patron-client networks and exploit rent-seeking opportunities. As a result, a constellation of 'status-quo' interest groups have emerged in the region. Put simply, urban underdevelopment has proven politically and economically beneficial to a wide range of actors in African cities. Moreover, I argue that the emergence of status quo interests coincided with the rise of an anti-urbanisation bias in international development discourse at a time when countries in Africa were experiencing historically unprecedented rates of urban population growth. This contributed to a contraction of urban infrastructure investment and the adoption of misguided policies designed to restrict or discourage rural-urban migration.

The proliferation of slums across the developing world can be understood as a consequence of 'disjointed modernization'. However, the scale of the phenomenon should also be seen as symptomatic of government failure to proactively manage urban population expansion. There is little doubt that rapid urban population growth in developing regions—and Africa in particular—places enormous strain on government resources and capacities. However, more could surely be done to improve the lives of the burgeoning urban populations in developing regions, but only where the interests and ideas of politicians and planners support a proactive urban development agenda.

The remainder of this chapter is organized as follows. The next section reviews the history of the term 'slum' and discusses the definition and measurement of the slums for empirical purposes. Section 3 reviews the existing literature on the emergence and persistence of slums. Section 4 presents

and tests an empirical model of slum incidence based on the 'disjointed modernization' hypothesis implied by the literature. Section 5 examines the influence of colonial patterns of investment and institutional development on urban development in Africa and demonstrates empirically that these patterns are correlated with contemporary variation in slum incidence in the region. Section 6 introduces a stylized political economy model of urban development designed to elucidate the specific mechanisms of path dependency that have served to perpetuate these early patterns of urban development and draws on qualitative evidence to demonstrate their salience. Section 7 concludes with a brief discussion of the policy implications of the analysis presented.

3.2 Defining and measuring the 'challenge of slums'

The term 'slum' can be traced back to the 19th when it emerged as a descriptor for overcrowded, squalid inner-city tenements housing the poor working classes of industrializing cities in Europe and North America (Gilbert 2007, Ward 1976). It was subsequently applied to the sprawling unplanned settlements that arose in the mid-20th century on the outskirts of rapidly growing cities in Africa, Asia and Latin America, despite the very different spatial and physical characteristics of these settlements. New terms were also introduced by scholars and governments to describe these areas such as shantytowns, informal settlements, squatter settlements, unplanned settlements, autonomous urban settlements and irregular settlements.

Recognizing the diversity of settlements classified as slums, sociologists in the 20th century worked to provide more accurate settlement typologies by examining the unique social characteristics of diverse low-income urban communities. For example, in a widely cited article, Stokes (1962) distinguished between 'slums of hope' and 'slums of despair,' with the former inhabited by

ambitious and optimistic individuals capable of improving their circumstances and the latter inhabited by the hopeless and destitute with no prospect of improvement. Similarly, drawing on his research in Chile, Portes (1971) identified four types of slum settlements categorized according to the origins of the settlement (i.e. popular initiative versus government initiative) and residents' perceptions of its permanence (i.e. temporary versus permanent). The list of slum typologies based on sociological research has grown ever longer since, taking into account location, size, age, etc.¹³ According to Gilbert (2007), 'The only common element over time has been that "slums" have always been perceived to be undesirable places in which to live' (702).

This last definition, which is premised on a normative judgment, is an essentially socio-political as opposed to scientific definition of the phenomenon. The fact that the term is inherently normative in origin has led some to question its analytical value (Ward 1976; Gilbert 2007), and the recent resurrection of the term by UN-Habitat in its global 'Cities Without Slums' campaign has raised concerns that its use could result in a reversion to the stigmatization of urban poverty that was so common and frequently destructive in the past (Gilbert 2007).

However, the term does have analytical value in exactly the same way that words such as 'poverty' and 'inequality' do: it provides a unified descriptor for a heterogeneous phenomenon with (assumed) common underlying causes. While efforts to deconstruct the concept of slums and create more nuanced typologies of different kinds of low-income settlements based on their social dynamics has its merits, it can also lead to a situation in which the trees obscure the forest – i.e. the broader structures and processes at play in the production of the phenomenon. If one accepts the normative basis of the concept of the slum, it becomes possible to investigate it empirically. As with measures of poverty

¹³ See UN-Habitat (2003), Chapter 5.

and relative deprivation, normative criteria can be translated into observable indicators.

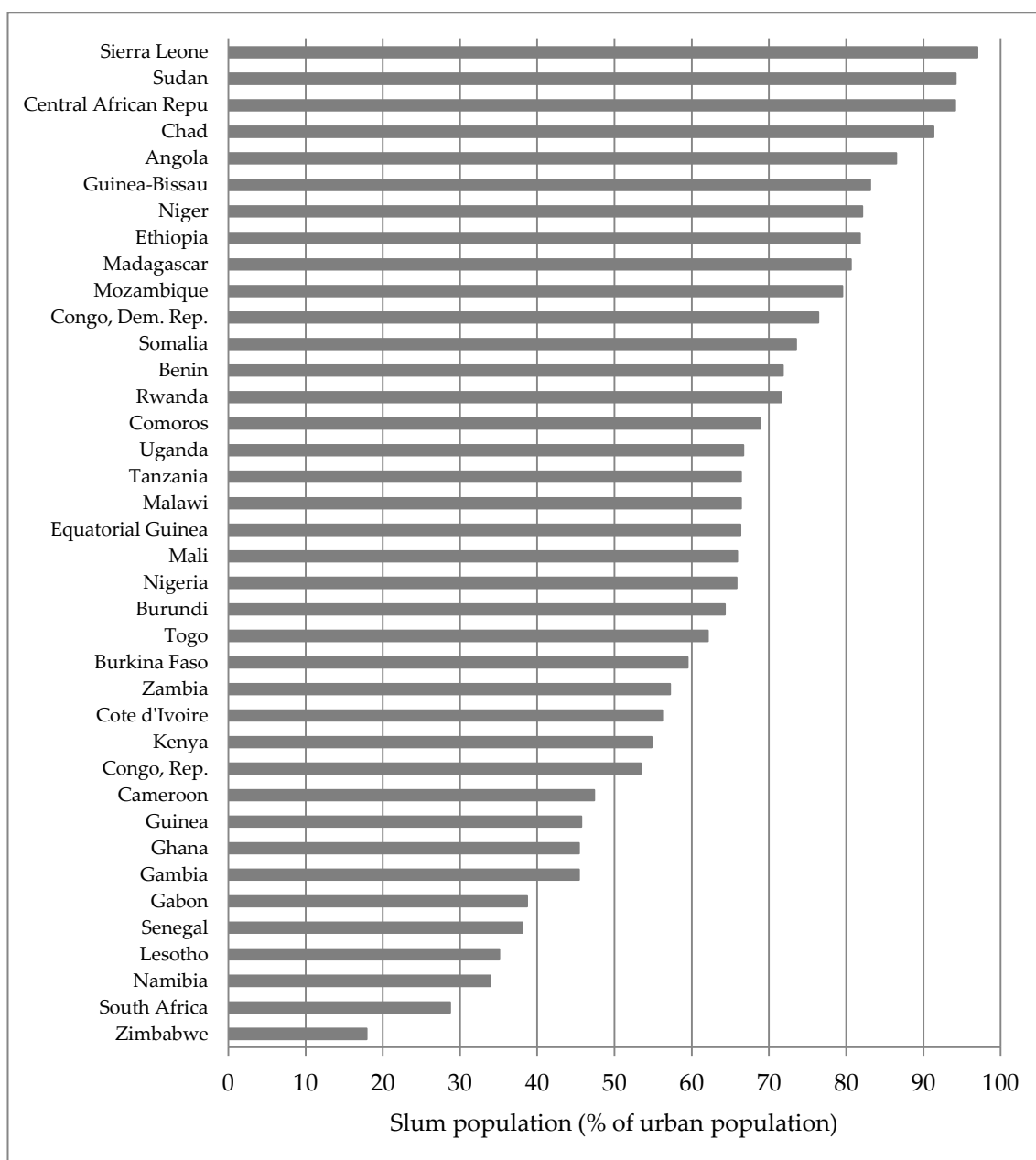
In the case of slums, UN-Habitat has done this with the introduction of a 'slum population index', which was developed by UN-Habitat's Global Urban Observatory to assist in monitoring Target 11 of the Millennium Development Goals: "By 2020 to have achieved a significant improvement in the lives of at least 100 million slum dwellers". A slum household is defined by UN-Habitat as lacking one or more of the following: a durable structure, access to safe water, access to sanitation facilities and sufficient living area. In other words, a 'slum' household exhibits some form of shelter deprivation. In Africa, Asia and Latin America, such conditions are sometimes found in inner-city areas, but are more commonly manifest in the sprawling informal settlements that run in and around the more built-up central districts of towns and cities.

The slum population index was compiled from a combination of data sources including household surveys (primarily DHS and MICS) and census data. While the validity of the data at the individual country level may be subject to criticisms of measurement error, the index remains useful in the context of this study assuming that the relative orders of magnitude between countries are reasonably consistent. Although UN-Habitat has published slum population estimates for 1990, 1995, 2000, 2005, 2007 and 2009 they are not comparable. Prior to 2005 many country estimates relied on just two shelter components as opposed to the four used to produce the 2005 estimates, and the definition of adequate sanitation changed for the 2005 estimates. Moreover, the 2005 series offers the greatest country coverage by far, particularly for countries in sub-Saharan Africa. In this chapter I therefore only employ the 2005 series for empirical purposes.

Figure 3.1 shows slum incidence rates—i.e. the percentage of a nation's urban population living in slums as defined by UN-Habitat—for the 38 countries in sub-Saharan Africa for which data are available. There is clearly wide variation

in the region, from a high of 97% in Sierra Leone to a low of approximately 18% in Zimbabwe.

Figure 3.1 *Slum incidence in 38 sub-Saharan African countries, 2005*



3.3 Theories of slums: modernization and market failure

Slums have traditionally been portrayed as a transitional phenomenon associated with modernization—a natural by-product of the (assumed) complementary processes of industrialization and urbanisation. For example, Frankenhoff (1967) suggested that ‘slums necessarily belong to the process of economic growth in a developing country’ by acting as ‘the staging area for the migrating poor’ as they work to integrate themselves into the economic life of cities in expanding economies (27-28). Similarly, John Turner (1969), an influential pioneer of the study of slums and squatter settlements, argued that they are ‘both the product of and the vehicle for activities which are essential in the process of modernization’ (509). According to this perspective, poor rural migrants initially cannot afford to build, buy or rent decent housing and opt instead for cheap, substandard units close to employment opportunities. As they become integrated into the urban economy and their incomes rise, these migrants eventually enter the formal housing market or invest in upgrading their existing dwellings, thereby ameliorating slum conditions. In other words, modernization theory portrays slums as a natural and temporary manifestation of a market failure arising from the dynamics of structural change in labour markets.

This teleological theory is premised on several flawed assumptions. First, it assumes that slum settlements grow to accommodate labour migrants, but the link between urban population growth and urban economic growth is tenuous, particularly in sub-Saharan Africa, which experienced two decades of “urbanization without growth” (Fay and Opal 2000; Fox 2012). Second, it assumes that economic growth will trickle down to those living in slums, allowing them to improve their lot. This is questionable given abundant research indicating low degrees of intergenerational socio-economic mobility for households living in slum settlements (see Buckley and Kalarickal 2005).

Third, it assumes that slums provide cheap housing for cheap labour, but the costs of living vary widely in slums, with residents often paying a premium for both units and services (see Gulyani and Talukdar 2008). The process of modernization, in other words, seems to have gone awry in cities across the developing world and Africa in particular.

A variety of theories have been advanced to explain this deviation from the assumed path of modernization. Broadly speaking, these theories portray the persistence of slums as a manifestation of land and housing market failures arising from demographic, economic or institutional factors.

Perhaps the most popular explanation for the growth of slums is rapid urban population growth, especially in Africa. For example, Obudho and Mhlanga (1988) claimed that 'the development of slum and squatter settlements in Africa is a direct manifestation of the high rate of urbanization' (3), while Malpezzi and Sa-Aadu (1996) argued that 'the rate of African urbanization is the *raison d'être* for squatter settlements' (151) in the region. Intuitive as this may be, and surely an important conditioning factor in many cases, rapid urban growth is neither a necessary nor sufficient condition for the formation of slums. Some brief examples serve to illustrate the point.

Between 1960 and 1990, the population of Accra, Ghana grew from 393,000 inhabitants to 1.2 million. Today, approximately 58% of Accra's population lives in unplanned settlements (UN-Habitat 2009). Over the same period, Phoenix, Arizona grew from 558,000 inhabitants to 2.02 million—adding more people at a faster rate than Accra—without the emergence of slum conditions. Conversely, there is an extensive literature on the consequences of 'de-industrialization' in North American and European cities. The dissolution or relocation of industrial enterprises which had previously been important employers in a particular city leads to rising unemployment, population decline (as people move away), and the deterioration of infrastructure and housing stock due to lower incomes and reduced local government revenues for

maintenance. In some cases this has resulted in 'slum' conditions. In other words, slums can also emerge in a context of urban population contraction (UN-Habitat 2003).

This is an important point to note (or reiterate) considering the popularity of policies designed to slow the pace of urbanisation as a means of arresting slum growth. Somewhat ironically, urban deprivation has often been used to justify expenditures on rural development, an issue I will return to in Section 5 below. It is also an important point from an analytical perspective. If rapid population growth is neither a necessary nor sufficient condition for slum formation and growth, we need to look elsewhere for underlying causes.

Generally speaking, demographic explanations are accompanied by an economic one: slums emerge and persist due to urban poverty. As Turner (1969) noted, slums will inevitably continue to exist 'as long as the poor remain poor' (526). The logic of this argument is straightforward. Income determines 'effective demand' (Mosha 1988)—i.e. the quality of dwelling that individuals and households can afford to build, buy or rent. Where incomes are low, housing quality will be poor due to a) the limited resources available to owner-occupiers for building, upgrading and maintenance and b) the absence of incentives for developers to invest in providing rental housing that meets normative international standards. In other words, urban poverty has long been cited as a sufficient condition for both the emergence and persistence of slums.

This is a more compelling argument than a purely demographic one. Slum conditions are fundamentally a manifestation of underinvestment in housing and infrastructure stock. While demography drives demand, socioeconomic conditions are clearly a critical determinant of the resources available to generate the supply of serviced housing units. However, resources constraints are not the sole determinant of investment; institutions also matter.

Indeed, institutional explanations of urban underdevelopment, which have a long pedigree, are currently in vogue. For decades, scholars have argued that

urban planning regimes in Africa, Asia and Latin America, which were generally based on planning norms in Europe and North America, have proven ill-suited to the socioeconomic realities of rapid urbanisation in these regions (Turner 1969; Turner 1976; King 1980; Hardoy and Satterthwaite 1989; Stren and Halfani 2001). For example, Collier and Venables (2013) argue that the introduction of the British Town and Country Planning act of 1947 in British colonies resulted in unrealistic building standards out of step with local income levels, and that these remained in place after independence because “the new African political elite wanted to join modernity not to dilute it” (5). Similarly, poorly defined and enforced property rights can create inefficient friction in land and housing markets and discourage private investment (see Turner 1969; Turner 1976; de Soto 2000; UN-Habitat 2003; World Bank 2009). Even the urban poor show an ability to invest in incremental upgrading when faced with the right incentives (see Field 2005).

Institutional issues are also cited as a factor inhibiting public investment. The illegality of settlements that consist of structures which violate planning regulations or contravene property rights often discourages public investments in infrastructure, either because such settlements are ineligible for investment, or because public authorities fear that public investment will constitute tacit recognition of legitimate occupancy rights and encourage further illegal settlement (UNCHS 1982; UN-Habitat 2003; World Bank 2009).

Each of these arguments points to a specific dynamic of market failure associated with the emergence and persistence of slums. Rapid urban population growth is essentially portrayed as a source of ‘excessive demand’; urban poverty results in ‘defective demand’ and constrains investment; and inappropriate institutional arrangements distort investment incentives. Put differently, slums can be understood as a manifestation of ‘disjointed modernization’ in which urban population growth outpaces urban economic and institutional development.

3.4 OLS analysis of the ‘disjointed modernization’ theory

Quantitative empirical analysis of slum formation and growth is hampered by a severe dearth of reliable data, particularly in sub-Saharan Africa. Little effort and few resources have been devoted to urban data collection resulting in critical information gaps with regards to basic socioeconomic indicators such as income level and distribution, mortality and fertility rates, employment, local government capacity and integrity, etc. Nevertheless, the slum incidence estimates produced by UN-Habitat make it possible to conduct a rudimentary test of the disjointed modernization theory of slums outlined above.

Ideally we would exploit differences in slum incidence across countries and over time to identify the mechanisms that drive slum formation, growth and amelioration. However, as noted in section two, reliable time series estimates are not currently available for a significant cross section of African countries.

As a rough test of the disjointed modernization hypothesis I estimate the following equation using ordinary least squares:

$$S_i = \alpha + \beta_1 U_i + \beta_2 E_i + \beta_3 I_i + \beta_4 A_i + \epsilon_i$$

where S_i is the proportion of a country’s urban population living in slum settlements in 2005. U_i is the compound average annual rate of urban population growth between 1990 and 2005. This variable is included to capture the effects of trends in demand growth. E_i is a vector of two economic variables: the log of average GDP per capita between 1990 and 2005 (a general measure of economic development) and the log of average product export diversity between 1995 and 2005 from UNCTAD, which serves as a proxy for *urban* economic conditions (see below). I_i represents a country’s average ‘rule of law’ score between 1996 and 2005, drawn from the World Bank’s *Worldwide Governance Indicators*. This is a rough (and common) proxy for ‘institutional

quality'. It clearly does not capture important institutional nuances that are specific to urban governance, such as land tenure arrangements, zoning regulations or building codes. Nevertheless, it is reasonable to suppose a correlation between a government's general ability to maintain the rule of law and its ability to plan and regulate urban settlements effectively. All of these variables are averaged over time to prevent the estimates from being biased by single year anomalies. They are also lagged to reduce the prospect of obtaining biased estimated due to endogeneity, an issue discussed in more detail below.

Finally, A_i is a dummy variable assigned a value of 1 for countries in sub-Saharan Africa and a value of 0 for all other countries in the sample. This is included to assess the extent to which demographic, economic and institutional factors account for the exceptionally high average level of slum incidence observed in the region. Full details of the sources of the variables employed in this model can be found in Appendix A. Descriptive statistics and a correlation matrix of explanatory variables can be found in Appendix B.

The sample consists of 85 countries in Africa, Asia and Latin America for which all relevant data are available.¹⁴ I use the largest possible sample in order to test the general hypotheses associated with the disjointed modernization hypothesis, which should apply to all countries, and to determine whether or not there is something unique about countries in sub-Saharan Africa that renders them more likely have large slums than counties in other regions. In other words, this design allows us to examine two axis of variation in slum incidence: between regions and between countries.

The 'product export diversity' variable is included to compensate for the fact that the (national) GDP per capita indicator does not provide information about the distribution of income or earning opportunities in the urban sector. It is possible for a country to have a relatively high GDP per capita but an

¹⁴ The sample falls to 83 in some specifications due to missing GDP estimates for Myanmar and Somalia.

underdeveloped urban sector (in terms of output, and level and distribution of income) if economic activity is concentrated in a capital intensive sector (e.g. oil economies such as Angola or Equatorial Guinea). The use of export diversity data to capture information about urban economic conditions is based on the logic that a robust urban economy with a broad income base is characterised by economic diversity and extensive trade. A country's export diversity score is calculated by summing the number of product categories that comprise a country's export profile in any given year. There are 216 categories in total. The average product diversity score in the whole sample is 146 with Brazil, China, India and Thailand tied for the maximum with 251 each. For the 38 countries in sub-Saharan Africa the mean export diversity score is 110, with a minimum of 19 in Guinea-Bissau and a maximum of 251 is South Africa.

While a country's export profile does not fully capture the extent of specialisation and exchange in the urban sector, it is a reasonable proxy, and the best available given the dearth of urban level data available on income, inequality and poverty. To my knowledge, this is the first time this indicator has been interpreted and used in this way.

Given the forgoing discussion, a country's rate of urban population growth is expected to be positively correlated with slum incidence, while GDP per capita, product export diversity and the quality of the rule of law are expected to be negatively correlated with slum incidence. Table 3.2 presents the results of the OLS model.

Table 3.2 *Determinants of cross-country variation in slum incidence: OLS results*

	Dependent variable = slum incidence 2005				
	(1)	(2)	(3)	(4)	(5)
Urban pop. growth, 1990-2005	4.93*** (1.53)			2.82* (1.28)	2.63** (1.27)
Avg. GDP per capita, 1990-2005		-11.44*** (1.93)		-7.60*** (2.02)	-8.55*** (1.92)
Export diversity, 1995-2005		-8.14*** (3.08)		-8.16*** (2.89)	-9.06*** (2.85)
Rule of law, 1996-2005			-17.93*** (3.37)	-11.14*** (3.01)	-11.35*** (3.2)
AFRICA dummy	22.73*** (4.56)	8.37* (4.36)	20.73*** (3.99)	5.83 (4.05)	
R-squared	.42	.62	.53	.69	.69
Observations	85	83	85	83	83

Notes: Standard errors are in parentheses. Significance at the 1, 5 and 10 per cent levels are indicated by ***, **, * respectively.

Columns 1-3 show that demographic, economic and institutional conditions are each significantly correlated with slum incidence (as anticipated), but that none of these factors alone accounts for sub-Saharan Africa's unusually high levels of slum incidence. This is demonstrated by the positive and significant correlation between the AFRICA dummy variable and slum incidence in each of these specifications. However, in the full model (Column 4), which explains nearly 70% of cross-country variation in slum incidence, all of the independent variables of interest remain significant while the AFRICA dummy is rendered insignificant. Finally, in column 5 the Africa dummy is dropped and yet the fit of the model, as well as the magnitudes and significance of the coefficients, remain stable. These results suggest that the high levels of slum incidence observed in countries in sub-Saharan Africa (relative to countries in other developing world regions) are largely accounted for by observable demographic, economic and institutional factors.

Table 3.3 *Determinants of slum incidence within SSA: OLS results*

	Dependent variable = slum incidence 2005			
	(1)	(2)	(3)	(4)
Urban pop. growth, 1990-2005	1.81 (2.40)			1.54 (1.90)
Avg. GDP per capita, 1990-2005		-10.07*** (3.122)		-8.38*** (3.07)
Export diversity, 1995-2005		-9.84** (4.13)		-8.48** (4.00)
Rule of law, 1996-2005			-15.59*** (5.01)	-11.59** (4.74)
R-squared	.016	.402	.212	.501
Observations	38	37	38	37

Notes: Standard errors are in parentheses. Significance at the 1, 5 and 10 per cent levels are indicated by ***, **, * respectively.

Table 3.3 presents the same specifications with only the 38 countries in sub-Saharan Africa. The results are very similar, although in this case urban population growth is not a significant predictor. This may be due to universally high rates over the period covered (hence not too much variation to explain) and indicates that this may be one of the factors that has set Africa apart from other regions.

While these results are consistent with the disjointed modernization hypothesis, these simple OLS models do not provide a strong basis for causal inference for two reasons.

First, plausible arguments for endogeneity can be made despite the use of lagged independent variables. There is little reason to suspect that slum conditions result in higher urban population growth. If anything, slum conditions may discourage migration into settlements with poor service provision and hence reduce urban population growth (Feler and Henderson 2011). However, economic conditions and institutions may be affected by conditions in urban areas. For example, countries with higher levels of slum incidence may experience slower growth due to the higher transaction costs and negative externalities associated with doing business in underserved,

under-regulated settlements (see Lee and Anas 1992; World Bank 2009; Gulyani and Talukdar 2012). As a result, income may suffer, thereby constraining the amount of resources available for public and private investment. Similarly, unregulated settlements may undermine institutional quality—an issue that is explored in section 5 below. Ultimately, better data is required to adequately address these endogeneity concerns.

The second limitation of this model is that it does not explain *why* contemporary variations in demographic, economic and institutional conditions exist in the first place—i.e. why the process of modernization has become disjointed. A genuinely causal explanation must be framed in terms of historical (as opposed to probabilistic) causation, recognizing the fact that the contemporary correlates of slum incidence are products of historical and political processes.

3.5 Comparative urban development in historical perspective

In recent years there has been a profusion of comparative empirical research illustrating the long-run developmental consequences of specific historical events, episodes and processes—or ‘critical junctures’ in the political science lexicon (Pierson 2000). The impact of European colonialism has received particular attention thanks to the pioneering work of scholars such as Acemoglu, Johnson and Robinson (2001) and Sokoloff and Engerman (2000), who have demonstrated the path dependent nature of colonial economic institutions. More recent research by Huillery (2009) has provided complimentary evidence that colonial era patterns of investment in public goods in West Africa map on to contemporary health and education outcomes and access to basic services.

European colonisation was also clearly a critical juncture in the history of urban development in sub-Saharan Africa. In the pre-colonial era urban

settlements were small and scarce. In the 19th and early 20th centuries European colonizers introduced technologies and institutions into Africa that led to improvements in mortality rates and food security, which in turn stimulated rapid urban population growth in the region (Iliffe 2007; Fox 2012). However, colonial patterns of investment and institutional development did not establish a strong foundation for urban development.

Generally speaking, colonial towns and cities were built to facilitate an extractive economic strategy. Transport infrastructure was designed to “evacuate exports” of primary commodities rather than cultivate internal exchange (Hopkins 1973, 198), and the development of manufacturing and industrial capacity was actively discouraged (Bairoch 1988; Stren and Halfani 2001). Settlements were designed to accommodate a relatively static population, not a growing one; for example, Zambia’s capital city of Lusaka, which is currently home to over 1.7 million people, was only designed to accommodate 125,000 people (Home 1997). Racial segregation was a ubiquitous aspect of colonial urban form, implemented to both insulate Europeans from disease and enforce social control, and African areas received minimal investment as Africans were largely deemed temporary sojourners in town and discouraged from settling permanently (King 1990; Home 1997; Njoh 2004). Despite a brief modernization drive in the late colonial period motivated by a combination of shifting economic priorities and moral sensibilities in colonial metropolises, as well as more immediate concerns about labour productivity and the spectre of urban social unrest (Stren and Halfani 2001; Cooper 2002), the legacy of colonial underinvestment left African cities physically and economically ill-prepared to absorb the influx of migrants that occurred in the early independence period (Fox 2012).

Arguably more important was the institutional legacy of colonial urban governance. Colonial administrative structures were weak and highly centralized, and municipal authorities were granted very limited authority over

development and regulation (Stren 1989; Home 1997; Njoh 2004). Crucially, control over land administration was generally concentrated in the hands of a colonial governor with discretionary powers over the allocation of land. In a context of rapid population expansion, such structures have proven cumbersome and have contributed to the proliferation of unplanned settlements.

For example, in Tanzania the 1923 Land Ordinance placed all land in the territory under the control of the colonial Governor, who could grant occupancy rights and recognize (vaguely defined) 'customary rights' (Shivji 1998). After independence, the ordinance essentially remained intact with all land in the territory vested in the office of the presidency. In the city of Dar es Salaam this highly centralized, discretionary system of land allocation resulted in a gross mismatch between the demand for plots and the ability of the government to allocate them. A study in 1972 found that acquiring an occupancy permit for a plot in the city could take up to 280 days; a similar study in 1977 found a waiting time of 300 days (Stren 1982). Between 1990 and 2001 authorities in Dar es Salaam received 243,473 applications for planned plots yet only 8,209 were allocated (Kironde 2006). Given the difficulties in accessing land through formal channels, most people continue to acquire land in the city through 'neo-customary' (i.e. informal market) arrangements.

This stylized narrative of colonial patterns of investment and institutional development glosses over significant variation in colonial experiences across Africa. However, this variation facilitates an empirical analysis of the enduring legacies of colonialism on contemporary urban conditions in the region.

Figure 3.2 *Colonial era capital investment and slum incidence in 2005*

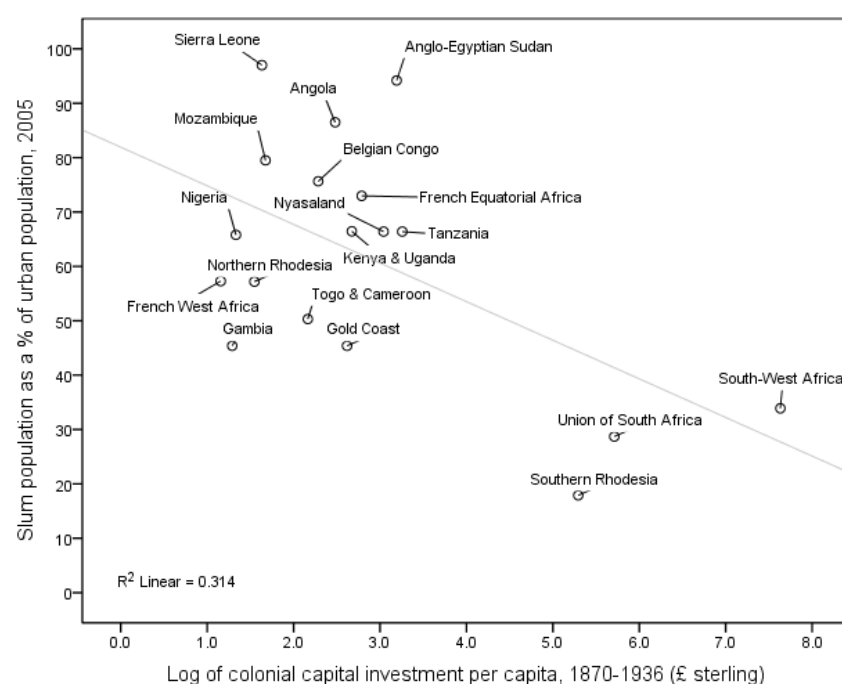


Figure 3.2 plots the relationship between the sum of capital investment per capita in colonial African territories between 1870 and 1936 and slum incidence in these territories in 2005 (see Appendix A for details). The figure shows a clear difference between the settler colonies of Southern Africa (contemporary Namibia, South Africa and Zimbabwe), which received relatively high levels of investment due to extensive commercial and political interests in these territories, and those in other regions, which received considerably less investment. This pattern is consistent with the hypothesis that colonial era patterns of investment have had long-term consequences for urban development in the region.

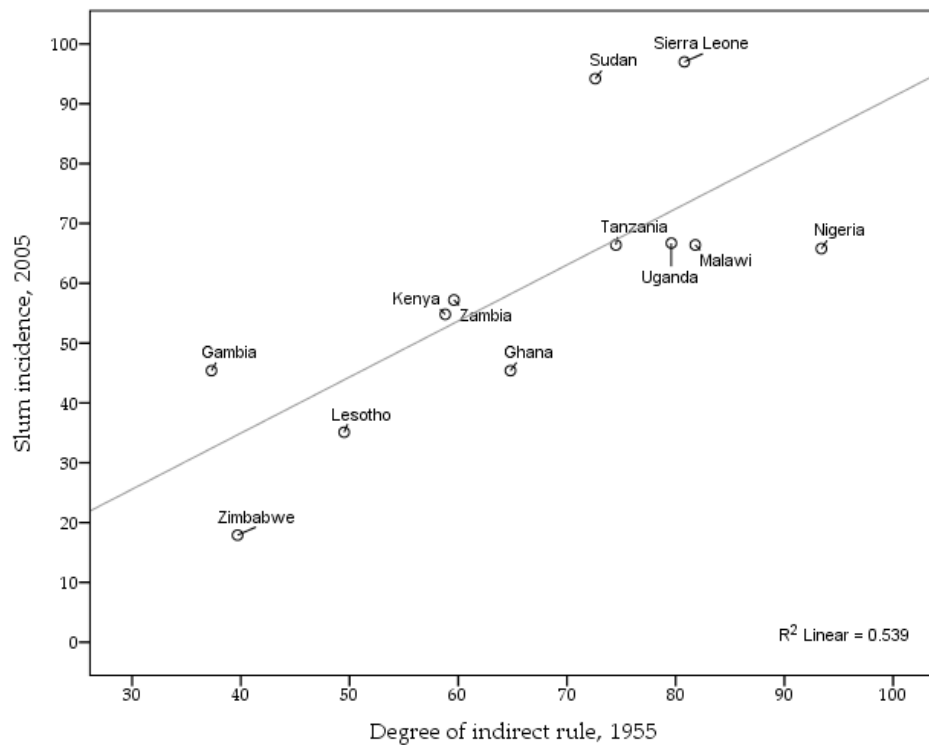
Colonial investment patterns were also closely associated with strategies of rule and institutional development (Home 1990). In the case of the British empire, he observes that “rapidly growing ports of the Empire, usually acquired and governed under direct rule, created severe problems of housing and traffic movement which the colonial administration was reluctantly forced to address” (ibid 25). In these colonies, more sophisticated municipal structures

were developed alongside more robust legal institutions, including those governing the allocation of land (Home 1990; Home 1997). By contrast, in colonies governed under indirect rule (including all African colonies to varying degrees) urban settlements were managed with ad hoc institutions, including vague land legislation (ibid). There were, however, varying degrees of indirect rule in Africa, from the paradigmatic case of Nigeria to the more tightly governed settler colonies in Southern Africa. The impact of this variation can be demonstrated empirically by employing a quantitative indicator of 'British indirect rule' developed by Lange (2004). The index is a measure of the percentage of court cases adjudicated by indigenous (as opposed to colonial) authorities in 1955. As such, it captures the degree to which British authorities delegated authority to local powerbrokers, including authority over land allocation, in their efforts to maintain political order (ibid).

Figure 3.3 plots slum incidence in 2005 against this 'indirect rule' index. Although only 12 observations are available due to data restrictions, the trend is clear: legal fragmentation in the colonial era is closely and positively correlated with contemporary slum incidence. This is consistent with the hypothesis that institutional arrangements established in the colonial era have influenced postcolonial patterns of urban development in the region.

It is impossible from such an analysis to tease out the nuanced mechanisms of causation given the interdependency of investment and institutions. As Home (1990) notes, institutional development in the colonies was often driven by interests associated with previous investments, and investment was shaped by the incentives created by institutions. Nevertheless, it is clear that contemporary variation in conditions in African cities is correlated with colonial era patterns of investment and institutional development, which is consistent with the arguments outlined here.

Figure 3.3 Colonial strategies of rule and slum incidence in 2005



3.6 The political economy of the ‘political will deficit’

Locating the origins of contemporary variation in slum incidence in Africa’s colonial past takes us a step closer to a more convincing causal explanation for the scale and diversity of the phenomenon in the region. However, it remains an incomplete explanation. Independent African governments have had anywhere between 30 and 60 years to redress the failures of their colonial forebears. Understanding why they have not done so is critical to explaining urban underdevelopment in the region.

While the decisions and actions of private individuals clearly shape urban landscapes, governments play a pivotal role in shaping urban development trajectories. Even the World Bank, which has been the primary champion of market-based solutions to urban development in recent decades, concedes that ameliorating slum conditions not only “requires the institutions to manage land markets” but also “investments in infrastructure, and well-timed and well-

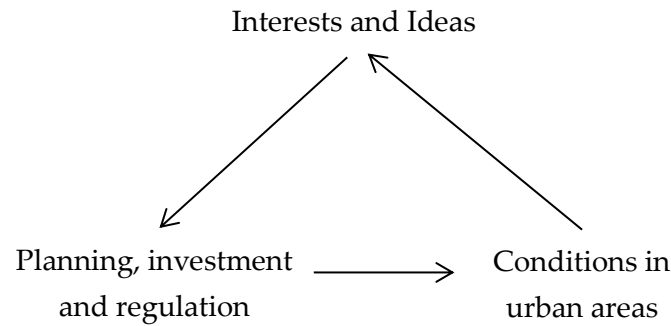
executed interventions” (World Bank 2009, 49). In Africa, the scale of the slum phenomenon is first and foremost a reflection of persistent failure on the part of governments in the region to plan, invest and proactively manage urban development in a context of rapid population growth. This requires explanation beyond the often heard lament that there is a “lack of genuine political will to address the issue in a fundamentally structured, sustainable and large-scale manner” (UN-Habitat 2003, 5).

To some extent inaction may be due to the inherent challenges of overcoming a complex set of impediments to public and private investment—i.e. a coordination failure. As Collier and Venables (2013) argue, kick-starting mass housing investment in the region requires addressing costly inputs, strengthening property rights, promoting financial market deepening, building complimentary infrastructure and providing sustainable employment opportunities. Solving all of these impediments to investment requires harmonised action across a wide range of actors and agencies on a large scale. This is inherently challenging. However, I argue that there are also some complex political economy obstacles that have undermined political will for reform.

To facilitate an analysis of this ‘political will deficit’ I begin with a simple stylized model of urban development in which the interests and ideas of political agents inform decisions about planning, investment and regulation; these decisions in turn shape conditions in urban areas. The model also posits a feedback between conditions in urban areas and the interests and ideas that shape the behaviour of political agents. Figure 3.4 illustrates this simple model. I use this model as a guide for identifying mechanisms of path dependency—i.e. the reasons why colonial patterns of investment and institutional development have persisted in the postcolonial era. Drawing on qualitative evidence, I first interrogate how the interests of political agents in African cities affect their actions with regard to urban governance. I then turn my attention to

the way in which ideas about development in the postcolonial era have informed urban policy in the region.

Figure 3.4 *The political economy of urban development: a stylized model*



Patronage, rent-seeking and status quo interests

As noted above, interest in urban development during the colonial era was directly linked to the political and economic objectives of colonial governments and their domestic agents. Colonial institutions of urban governance, including tenancy rights and building codes, were explicitly designed to restrict access to urban space. While the racial dimensions of these exclusive institutions were generally dismantled in the independence era, the underlying structures of exclusion (such as land registration procedures, building codes and density requirements) remained largely unchanged. A common explanation for this is that post-colonial leaders found themselves in a position to exploit the existing rules to their advantage (Mabogunje 1990). In the case of Tanzania, for example, Stren (1982) notes that “those who have connections, education, and wealth in Tanzania have almost certainly been able to take advantage of...the plot allocation system and various other state-supported institutions in the urban areas” (19). Where existing institutional arrangements benefit ruling elites, there is little incentive for them to undertake reform. However, there are more

nuanced legacies of colonial rule that have generated explicit incentives to actually *resist* reform.

Many authors have demonstrated the problematic political legacies of colonial institutions, which often blurred the lines between social and political-institutional bases of legitimate authority and served to entrench (or exacerbate existing) social divisions (e.g. along lines of race, class and ethnicity), resulting in particularly toxic postcolonial political dynamics that impede effective governance (see Bayart 1993; Berry 1993; Boone 1994; Mamdani 1996; Lange 2004). In particular, the relatively weak, highly centralized political structures inherited from colonial regimes have created strong incentives for rulers to exploit discretionary powers in order to maintain social support (or control). This has had direct consequences for the quality of urban governance in the region.

As noted above, colonial municipal structures were generally ad hoc and subordinate to executive authorities. Despite widespread efforts in the postcolonial era to promote decentralization and bolster the capacity of municipal governments, much of this has been what Faguet (2012) refers to “insincere decentralization.” Genuine devolution has been rare due to the unwillingness of central governments to cede authority over key functions (such as taxation, planning and infrastructure development) to lower tiers of government (Stren 1989; Stren and Halfani 2001; Cohen 2001; Faguet 2013). Control of such functions provides a variety of useful instruments of patronage (such as jobs, contracts, tax breaks, subsidised loans, etc.) which can be used to shore up political support (Nelson 1979; see also Keefer and Vlaicu 2007 for a formalized treatment of the appeal of patronage in nascent democracies). The unwillingness of central government authorities to let go of such instruments and sincerely work toward building municipal capacities has undermined the ability of local governments to deliver on their urban development mandates.

Moreover, cities are inherently problematic political spaces for leaders because of the proximity of the rulers to the ruled. A notable feature of postcolonial African politics has been the emergence of populist political parties in urban areas which cultivate support among the neglected urban poor; the city councils of many of Africa's large urban centres are controlled by such opposition (Resnick 2012). As city populations grow in both absolute and relative terms, so too does the need to appeal to urban voters (or potential rioters). This can create strong incentives to interfere with even well-intentioned planning and regulatory efforts designed to promote public welfare.

For example, Goodfellow (2012) describes in detail the politics of 'anti-planning' in Kampala, Uganda, where efforts on the part of the Kampala City Council to control land use and development have been systematically undermined by central government interventions when the interests of important allies or constituencies were threatened. The result has been a delegitimisation of formal rules and regulations governing urban development, the entrenchment of a system of patronage and the proliferation of unregulated commercial and residential developments in the city.

This kind of political wrangling between central governments and city governments is common in Africa. However, there are also more subtle, decentralized forms of patronage that emerge in poorly governed cities. Centralized authority and byzantine regulatory structures create opportunities for lower-level politicians and bureaucrats to cultivate politically instrumental patron-client relationships by providing tacit approval for land occupations, building projects or other actions by urban dwellers that violate formal rules or regulations. The case of Dar es Salaam provides a useful illustration of this dynamic.

Formal channels of access to land in the city have failed to keep pace with the growth of the city's population. Official government estimates suggested that some 70% of the city population lived in informal settlements lacking basic

infrastructure around the turn of the millennium, and a subsequent estimate based on property tax data suggests that the number may be over 80% (Kironde 2006). The growth of these settlements has not, however, occurred entirely outside the purview of government control. It is widely recognized that local “10-cell” leaders (i.e. neighbourhood representatives) from the ruling *Chama Cha Mapinduzi* party, which has led the country since independence, are actively involved in informal land and housing markets, “authenticating land transactions and signing land transfer or selling agreement forms” (Kombe 2005, 118-119; see also Stren 1975). In other words, party officials grant rights and permissions informally and enforce them through party channels (e.g. by ensuring that a planned eviction by city authorities of ‘illegal’ squatters on public land is called off by central government officials). This creates public dependence on the party and strengthens its authority at the expense of rational planning and regulation executed through formal state agencies (Campbell 2009). This is, in effect, an urban manifestation of the political strategy of using land allocation in a context of weak property rights to cultivate electoral support—a strategy that has commonly been employed in rural areas many countries in the region (Boone 2009).

The disruptive effects of patronage politics on effective urban governance in African cities is frequently compounded by rent-seeking behaviour on the part of politicians and bureaucrats. Put simply, urban underdevelopment can be very profitable for some.

In failing to address the institutional and regulatory barriers that impede access to urban land, governments force people into informal markets and create opportunities for what could be termed ‘land racketeering’, by which I mean the offer of protection against eviction or demolition (to illegal squatters or developers in violation of planning regulations) in return for money (as opposed to political support). Land racketeering is widespread in African cities and can involve bureaucrats and politicians from the lowest tiers of government

(e.g. police officers or local councillors) to the very highest (e.g. parliamentarians and members of the executive branch of government). The situation in Kibera, a slum in Nairobi, is a notorious case in point.

In 2004, the population of Kibera was estimated to be 810,000 with 92% of households renting their accommodation from absentee landlords (Gulyani and Talukdar 2008). Technically, the settlement is illegal, as it is located on government land. However, it is common knowledge that plots in the settlement are informally allocated by government officials and other local powerbrokers with close ties to national political figures (see Amis 1984; Syagga et al 2002; Gulyani and Taludkar 2008). Indeed, one survey found that 41% of Kibera's landlords were government officials, 16% were politicians and 42% were 'other' absentee landlords, presumably with strong political connections (Syagga et al 2002). These informal landlords run a very profitable racket: in 2004 residents of the slum paid an estimated US\$31 million in rents (Gulyani and Taludkar 2008, 1925). Moreover, the "*absence* of government in service provision has created profitable infrastructure businesses for landlords" (Gulyani and Taludkar 2008, 1931) resulting in a situation whereby landlords "*are strongly likely to prefer—and work to maintain—the status quo*" (ibid, 1932).

In particular, poor water provision in slums has given rise to informal markets in which vendors sell water from standpipes or tanker trucks at inflated rates to the urban poor (Gulyani, Talukdar and Kariuki 2005). For example, in Nairobi Collignon and Vezina (2000) found that standpipe operators, who receive water at subsidized rates from municipal utilities, were selling water at inflated prices, earning profit margins of 80-90%. And in Lagos, Nigeria, which suffers from acute water infrastructure deficiencies, municipal attempts to extend services have frequently been met by intimidation and outright sabotage by the informal providers who profit from the lack of water infrastructure in underserved areas (Gandy 2006).

In sum, underinvestment and ad hoc urban governance—two patterns established under colonial rule—have created self-reinforcing dynamics (or ‘positive feedback’ mechanisms) by a) directly privileging elites in terms of access to urban land and amenities, b) generating opportunities for political patronage in contested political spaces, and c) generating opportunities for rent-seeking behaviour in contexts of public goods delivery failures. There is, in short, a political economy logic underpinning urban underdevelopment. There is, however, another significant political dynamic of note; one that relates to the role of discourse in shaping the *ideas* (as opposed to interests) of political actors.

The influence of an anti-urban bias in development discourse

The role of ideas, beliefs and values in shaping individual and collective behaviour is a major lacuna in political economy (North 2005), perhaps because it is so difficult to model (for rational choice theorists) or assumed to result primarily from material conditions (for more classically-oriented political economists). Yet their influence is difficult to ignore when adopting a historical perspective on the forces that have shaped urban development in less-developed regions in the late 20th century. Urban policy trends across Africa, Asia and Latin America have shown remarkable parity since at least the 1970s despite highly variable contexts (Stren and Halfani 2001; Beall and Fox 2009), indicating the widespread influence of trends in development theory.

Historically, and throughout the 1950s and 1960s, urbanisation was largely viewed as a positive phenomenon; as both a consequence and contributor to development progress. However, by the 1960s the pace of urban population growth in many developing regions—particularly in Africa—had become a source of increasing alarm. In 1970, Hariss and Todaro published an influential article in which they argued that governments should shift resources away from urban development and put in place measures to reduce rural-urban migration, arguing that ‘a limited wage-subsidy [in the rural sector] or a

migration-restriction policy will lead to a welfare improvement' (ibid, 137) in countries experiencing 'over-urbanisation.'

Around the same time, Michael Lipton was developing the infamous 'urban bias thesis' outlined in his book, *Why poor people stay poor: A study of urban bias in world development* (1977). Lipton argued that governments allocated a disproportionate share of public resources to urban areas and used 'price twists' to favour urban dwellers at the expense of rural peasants, an idea developed further by Robert Bates (1981) and the World Bank (1981). Lipton claimed that these fiscal and macroeconomic policy distortions 'made the development process needlessly slow and unfair' (1977, 1).

The influence of these ideas can be found in the population policies adopted by African governments throughout the 1980s and 1990s. For example, Kenya's *Population Policy Guidelines* published in 1986 states as one of its objectives, 'To reduce rural-urban and rural-to-rural migration which help to create the unplanned settlements in marginal lands' and encourages local councils to 'take part in developing rural projects that could discourage rural-urban migration, the main population process by which urban population grows.' Sierra Leone's *National Population Policy for Development, Progress and Welfare* of 1993 states that 'The development of the rural economy and the improvement of living conditions of the rural community through extension services, self-help and other measures are crucial to slackening the rural exodus.' Ghana's *National Population Policy* of 1994 argues for the need to implement 'measures to create an attractive environment in the rural areas to encourage people to stay there and...discourage over-concentration of both public and private developments in the main urban centres.' And Tanzania's 1992 *National Population Policy* aims 'To prepare and implement co-ordinated urban, rural and regional development plans for rapid development in the country and to reduce the rate of rural-urban migration' and 'To take measures to moderate the flow of rural migrants to urban areas through special programmes for youths in the rural

areas.’ The case of Tanzania is particularly revealing. In a speech given to the Food and Agricultural Organization in 1979, Tanzania’s charismatic president Julius Nyerere made direct reference to Lipton’s urban bias thesis before proclaiming that ‘Rural Development must be a description of the whole strategy of growth – the approach to development, and the prism through which all policies are seen, judged, and given priority’ (Nyerere 1979, 9).

Table 3.4 *Anti-urbanisation policies, 1976-2007*

	Percentage of countries with policies to reduce rural-urban migration			
	1976	1986	1996	2007
Africa	49	48	54	78
Asia	80	63	67	71
Europe	58	50	27	38
Latin America	30	68	35	68
Oceania	0	20	0	83

Source: United Nations (2008)

These examples serve to illustrate the way in which an anti-urban shift in development discourse was translated into a region-wide trend towards the adoption of anti-urbanisation policies. As Table 3.4 demonstrates, since the 1970s there has been a sharp increase in the number of African countries with policies in place to reduce rural-to-urban migration.

Further evidence of the emergence of an anti-urban bias in development policy in recent decades can be found in notable omissions from key policy documents and donor programs.

Mitlin (2004) has pointed out that the widely adopted *Poverty Reduction Strategy Papers*, which are a pre-requisite for countries seeking debt relief under the Highly Indebted Poor Countries Initiative, demonstrate very little concern for—and even less understanding of—urban poverty issues; Jones and Corbridge (2010) note that a 2005 Commission for Africa report makes first

mention of urban poverty on page 220. And there was a notable collapse in donor support for urban development initiatives from the 1980s. As Table 3.5 illustrates, World Bank shelter lending for slum upgrading and sites-and-services schemes in sub-Saharan Africa fell from \$498 million in the period 1972-1981 to just \$81 million for the period 1992-2005. By comparison, a very conservative estimate of World Bank lending for agricultural investment in the region (i.e. excluding emergency lending and development policy lending) between 1991 and 2006 is \$2.5 billion. The total amount invested in projects with an agricultural component over the period was \$14.31 billion (World Bank 2007). Today, many of the world's leading bilateral aid agencies, including AusAID, DfID, GTZ and USAID do not have dedicated urban development programs.

Table 3.5 *Trends in World Bank shelter lending in sub-Saharan Africa, 1971-2005*

	1972-1981	1982-1991	1992-2005
Total shelter lending	\$498 million	\$409 million	\$81 million
Equivalent per capita	\$5.20	\$2.74	\$0.32

Notes: Shelter lending data from Buckley and Kalarickal (2006); per capita estimates based on total urban population in sub-Saharan Africa at the end of each period (i.e. 1981, 1991 and 2005) drawn from World Bank, World Development Indicators online database, accessed September 2012.

The adoption of anti-urbanisation policies and the focus on rural development initiatives over the past three decades has had no discernible impact on urban population trends in Africa (with the possible exception of South Africa under apartheid). This is not surprising given the flawed theories underpinning them. The Harris and Todaro model suffers from a range of problematic assumptions and omissions that render its applicability to the real world questionable. In a comprehensive review and critique of the model, Lall, Selod and Shalizi (2006) do not find its conclusion that migration restrictions will generate net social welfare improvements to be justified. Similarly, Lipton's urban bias thesis has

been critiqued for its crude delineation between rural and urban ‘classes’, an inattention to the connectedness of rural and urban economies and livelihoods, a failure to recognize *intra*-urban inequalities, and an absence of convincing evidence—particularly in sub-Saharan Africa—of a distributional bias in public expenditure (see Jones and Corbridge 2010). Moreover, the actually observed policy biases identified by Lipton and Bates were largely dismantled in Africa during the structural adjustment era (Becker, Hamer and Morrison 1994), and recent research has noted a rapid and significant increase in urban poverty in the region despite some moderate gains in rural poverty reduction (Ravallion, Chen and Sangraula 2007). In retrospect, Lipton’s theory is probably better understood as an ‘elite’ bias rather than an urban bias *per se*.

However, the most perplexing aspect of anti-urbanization policies is the idea that improving income and welfare in rural areas will serve to discourage rural-urban migration. While this may seem intuitive, it has no empirical foundation. Economic development is a dynamic process that necessarily entails rural-urban migration. As the diversity and complexity of production in an economy increases, agglomeration becomes a necessity. As household incomes rise (including rural households), demand for goods and services produced in urban areas rises, thereby increasing demand for labour in urban areas and spurring rural-urban migration. The often deployed argument in favour of a rural bias in development—that *because* the majority of the poor live in rural areas it *follows* that more expenditure should be committed to those areas (e.g. Potts 2012, 1390)—is based on a static concept of development, ignoring the inherent dynamism of the process (Jones and Corbridge 2010).

Moreover, decades of empirical studies have consistently found that improving income, health (as measured by mortality), fertility (decline), infrastructure and—perhaps most powerfully—access to education in rural areas has the net effect of *increasing* rural-urban migration (e.g. Caldwell 1968; Byerlee 1974; Rhoda 1983; Brockerhoff and Eu 1993).

In sum, a shift in the discourse of development resulted in the contraction of urban investment at a time of explosive urban population growth. The diversion of development funds to investment in rural areas has probably not reduced rural-urban migration and may have contributed to it. It is, of course, difficult to quantify the effects of the emergence of a rural bias in development discourse and practice, but it is reasonable to suppose that ineffective population policies, an associated decline in investment in urban areas at a time of exceptional urban population growth, and a dearth of research into urban issues have collectively contributed to the proliferation of slum settlements across sub-Saharan Africa, particularly over the past 30 years.

3.7 Conclusion

The emergence and persistence of slums in developing regions can superficially be understood as a consequence of disjointed modernization. However, a deeper understanding of the scale and diversity of the phenomenon requires an appreciation of the historical and political dynamics that have shaped urban development trajectories.

Drawing on evidence from sub-Saharan Africa, I have demonstrated that the colonial era represents a critical juncture in the history of urban development. Colonizers set Africa's urban transition in motion, but (generally speaking) left in their wake a legacy of underinvestment and ad hoc urban governance structures. African cities were consequently ill-prepared to absorb accelerated urban population growth in the early independence period, resulting in the proliferation of unplanned, informal settlements.

These settlements have provided opportunities for the cultivation of politically instrumental patron-client networks and rent-seeking opportunities that generate strong incentives to maintain the status quo. Moreover, African governments have shown signs of internalising the anti-urbanisation bias that

emerged in development discourse in the 1970s, which has served to discourage a proactive approach to urban governance in recent decades despite the rapid and persistent growth of urban populations in the region.

History, however, is not destiny. The feedback mechanisms of patronage politics and rent-seeking have not necessarily created stable equilibriums in a context of widespread democratic reform and a persistent shift in the proportion of Africa's population living in urban areas. In Tanzania, for example, the city of Dar es Salaam has become a stronghold for the opposition parties that have emerged since the introduction of competitive party politics in 1992 with a populist, anti-corruption platform (Brennan and Burton 2007; Campbell 2009). And in Kibera, simmering tensions between a largely Kikuyu informal landlord class associated with President Mwai Kibaki and a largely Luo tenant class supported by populist challenger Raila Odinga erupted into outright violence in the wake of a disputed election in 2007 (see de Smedt 2009). In many ways, this echoed the (largely rural) electoral violence in 1992, which was similarly stoked by land conflicts rooted in a history of politically instrumental manipulations of property regimes (Boone 2011). A power sharing arrangement was agreed upon in the wake of the violence, with Raila Odinga incorporated as Prime Minister, and a comprehensive redevelopment plan for Kibera was launched in 2009.

I have also presented evidence that the discourse of development has a significant role to play in shaping the policy positions of national governments, as well as the resources at their disposal to tackle urban development challenges. A shift in the discourse, towards recognizing the positive contributions that cities can make to development (not simply the problems they create), may serve to encourage governments to take a more active approach to managing urbanisation in a way that maximises public welfare, and stimulate further research that sheds light on the complex political dynamics in African cities that serve to perpetuate urban underdevelopment.

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Appendix A

Data description and sources

Variable	Description	Sources and Notes
Slum incidence	Percentage of a country's urban population living in slum conditions. A slum household is defined as lacking one or more of the following: improved water, improved sanitation, sufficient living area (more than three persons per room), or durable housing' (p.g. 179). Greatest country coverage is available for 2005.	UN-Habitat (2008)
Urban growth, 1990-2005	Author calculation of average annual rate of urban population growth between 1990 and 2005.	World Bank, World Development Indicators online database (http://databank.worldbank.org/). Accessed June 2011
Avg. GDP per capita, 1990-2005	Natural log of average GDP per capita between 1990 and 2005 (constant 2000 \$US)	World Bank, World Development Indicators online database (http://databank.worldbank.org/). Accessed June 2011
Export diversity, 1995-2005	Average number of products exported annually. Number of products is based on SITC, Revision 3 commodity classification at 3-digit group level. This figure includes only those products that are greater than 100,000 dollars or more than 0.3 per cent of the country's or country group's total exports or imports. The maximum number of products is 261. Values were log transformed to normalize the sample distribution.	UNCTADstat database online. (http://www.unctad.org/Templates/Page.asp?intItemID=1584&lang=1) Accessed June 2011
Rule of law, 1996-2005	Average Rule of Law RL score between 1996 and 2005. Values range from -2.5 to 2.5, with a higher value representing a better score. The RL indicator measures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Data are derived from surveys of experts based in a variety of sectors, including survey institutes, think tanks, non-governmental organizations and international organizations.	World Bank Worldwide Governance Indicators database. (http://info.worldbank.org/governance/wgi/index.asp) Accessed June 2011
Colonial investment, 1870-1936	Sum of publically listed capital invested in African colonial territories between 1870 and 1936, calculated in thousands of pounds sterling, divided by national population in 1950 (the earliest year for which comprehensive population estimates are available). It is unclear from Frankel's methodology whether these estimates are in real or nominal terms.	Investment estimates from Frankel (1969); population estimates from UN Population Division.
Degree of indirect rule	Percentage of legal cases adjudicated by 'traditional' authorities in British colonies, 1955	Lange (2004)

Appendix B

Table B1 *Descriptive statistics*

Variable	Obs	Mean	Std. Dev.	Min	Max
Slum incidence 2005	85	47.51	24.57	3.9	97.0
Rate of urban pop. Growth, 1990-2005	85	3.40	1.49	-0.17	9.37
Ln avg. GDP per capita, 1990-2005	83	6.68	1.17	4.74	9.13
Ln avg. export diversity, 1996-2005	85	4.82	0.65	2.93	5.54
Avg. rule of law score, 1996-2005	83	-0.63	0.63	-2.16	1.25

Table B2 *Correlation matrix of explanatory variables*

	Urban growth	GDP per capita	Export diversity	Rule of law	SSA dummy
Urban growth	1.00				
GDP per capita	-0.54	1.00			
Export diversity	-0.13	0.49	1.00		
Rule of law	-0.34	0.50	0.33	1.00	
SSA dummy	0.43	-0.60	-0.42	-0.37	1.00

Chapter Four

Demography, democracy, development and urban protest in sub-Saharan Africa

Why are some countries in sub-Saharan Africa more prone to outbreaks of urban protests than others? Drawing together insights from the contentious politics and conflict studies literatures I develop an empirical model of protest incidence comprised of basic demographic, political and economic factors that theoretically influence the motives and means of potential protestors and the political opportunity structures they face. The results of a panel data analysis are consistent with the core hypotheses, but several unexpected results emerge: urban protest incidence is negatively associated with a country's level of urbanisation and degree of press freedom and positively correlated with income. More research is required to confirm these results, clarify mechanisms and account for broader trends in contentious collective action in the region.

4.1 Introduction

In recent years considerable scholarly effort has been devoted to understanding the causes and consequences of armed conflict in sub-Saharan Africa. By contrast, very little attention has been devoted to understanding the dynamics of more prosaic forms of contentious collective action such urban protest (Harsch 2009; Pilati 2011). Yet while episodes of armed conflict are relatively rare and have become increasingly so since the mid-1990s (Straus 2012), urban protest events—i.e. demonstrations, riots and strikes—are very common and

possibly on the rise. What drives people into the streets? Why are some countries more prone to outbreaks of urban protest than others?

In this chapter I develop and test a general model of protest incidence designed to account for variation in the frequency of urban protests across countries and over time. The model is informed by insights in the conflict studies and contentious politics literatures and incorporates demographic, political and economic factors that have been shown to influence the means, motives and opportunities for various forms of contentious collective action, from street protests to armed conflict.

I test the model using negative binomial regression analysis with a panel dataset that covers urban protests events reported by international wire services in 40 African countries between 1990 and 2011. The results indicate that protest incidence is positively correlated with urban population size, degree of democracy, institutional hybridity, institutional reform and elections, and negatively correlated with economic growth as hypothesised.

However, the analysis also yields some unexpected results. While urban population size is positively correlated with protest incidence, a country's *level* of urbanisation—i.e. the proportion of the population living in urban areas—is negatively correlated with protest incidence. Similarly, although economic growth is robustly and negatively correlated with protest, income *level* is positively associated with protest incidence. I also find that the number of reported protest events is negatively correlated with press freedom, which runs contrary to the expectation that press repression may negatively bias the number of reported protest events. There are a variety of potential theoretical explanations for these results, but further research is required to identify the specific mechanisms at work in each case if they prove robust in future studies.

The remainder of this chapter is organized as follows. The next section describes the protest event dataset used for the statistical analysis and summarises trends regionally and by country. Section three reviews the

contentious politics and conflict studies literature and presents a generalised empirical model of protest incidence. Section four provides the empirical analysis. Section five discusses the results and directions for further research. Section six concludes.

4.2 Urban protest: definition, measurement and trends

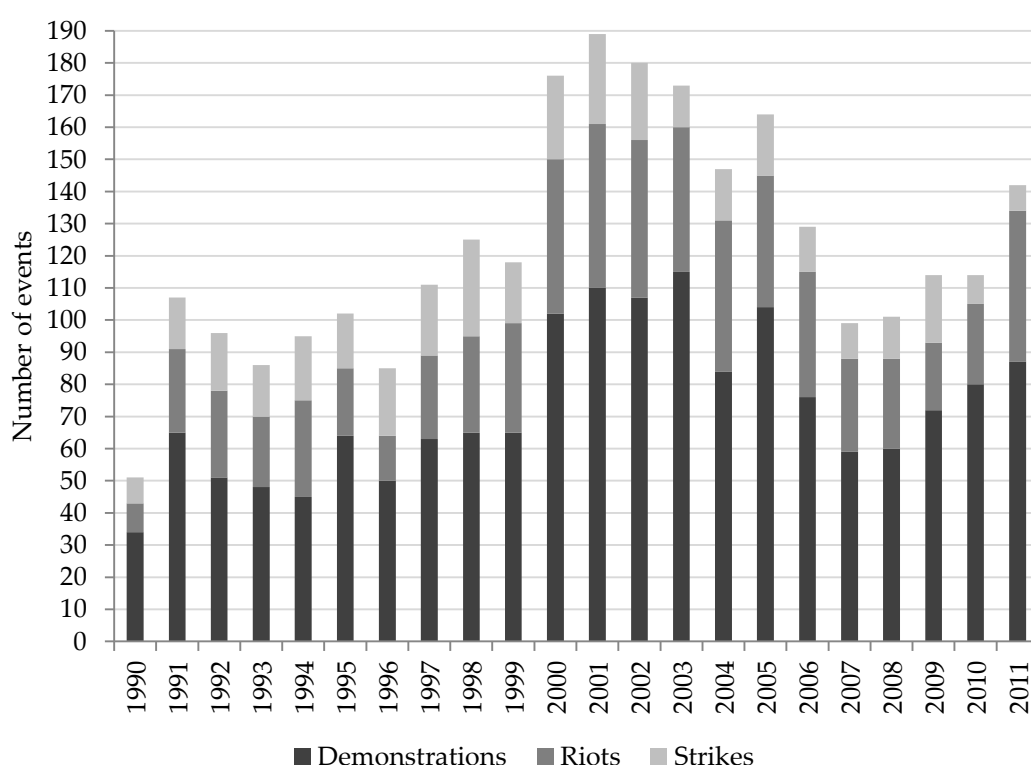
A protest can broadly be defined as an expression of dissent or discontent. For the purposes of the present investigation a protest is defined more narrowly as a public demonstration, riot or strike.

The empirical data on urban protest events used in this chapter were derived from the Social Conflict in Africa Database (SCAD) produced by researchers at the University of North Texas and the College of William and Mary as part of the 'Climate Change and African Political Stability' initiative (see Hendrix and Salehyan 2012). The SCAD database, which covers all African countries with a population of 1 million or more over the years 1990-2011, contains information on a variety of event types, including demonstrations, riots, strikes, inter-communal conflict, government violence against civilians, as well as other types of 'social conflict' events that are generally excluded from armed conflict databases. Data were compiled from Associated Press and Agence France Press wires using Lexis-Nexis. The database contains information on the date, magnitude and location of each event. Utilising the event type and location information coded in the database I created an 'urban protest event' (UPE) dataset, which consists of 2704 demonstration, riot and strike events in urban areas across 40 countries in sub-Saharan Africa. Other event types in the database were filtered out.¹⁵

¹⁵ The UPE dataset only includes events coded in locum 1, 2 or 4 in the SCAD database (i.e. urban areas). The data were filtered by *sublocal* to avoid double counting individual events coded in multiple areas. Only demonstrations, riots and strikes (i.e. events coded as *etype* 1-6 in the database) are included in order to omit events that could be classified as organized armed conflict. Demonstrations are defined as generally peaceful actions; riots involve intentional

Figure 4.1 summarises regional trends in reported protest activity. It shows that the annual number of reported protest events in sub-Saharan Africa increased steadily in the 1990s, peaked in 2001, declined to 2007, and then returned to an upward trend. It also shows that demonstrations are the most common form of protest, followed by riots and then strikes.

Figure 4.1 *Urban protest events in sub-Saharan Africa, 1990-2011*



An important concern with data derived from media outlets is that there may be a systematic bias in coverage associated with press freedom and resources. To some extent these concerns are mitigated by the fact that a) the events investigated here are public, collective and occurring in urban areas and therefore difficult to hide, b) the sources are international news wires, which are

physical injury or damage to property; strikes involve the partial or complete abandonment of workplaces by those belonging to an organization or union. Observations for Eritrea begin in 1993 when the country became independent. Somalia has been excluded from the sample due to the lack of other data required for the statistical analysis presented below.

less susceptible to censorship than domestic news outlets, and c) wire services offer greater geographical coverage and face fewer space constraints than newspapers, which are also used to produce event datasets of this kind (Salehyan et al. 2012). Indeed, comparisons of the SCAD dataset with that of Banks (2011), which has been the most commonly employed source of data on protests for quantitative studies, clearly indicates more comprehensive event coding in the former (Salehyan et al. 2012).

Nevertheless, one way of empirically addressing concerns about systematic bias associated with press repression is to examine the correlation between reported protest events and press freedom for each country using the Freedom House (2013) Freedom of the Press database, which is based on an annual survey of print, broadcast and internet freedom in 197 countries around the world. Values range from 0-100, with higher numbers representing lower degrees of freedom. To simplify the visual and statistical interpretation of the index the scale has been inverted here by subtracting each country's score from 100 so that higher values represent greater levels of press freedom (0=not free; 100=completely free). The series begins in 1993.

Figures 4.2a and 4.2b plot the annual number of reported protest events and the annual Freedom House press freedom score for all 40 countries in the UPE dataset between 1990 and 2011. There is no obvious positive association between press freedom and the number of protest events recorded. In many cases the inverse appears to be true—i.e. there appears to be a negative correlation between press freedom and protest incidence when examined over time. Clear examples include Burundi, Kenya, Senegal and Zimbabwe. Indeed, a simple bivariate correlation between press freedom and protest incidence yields a negative and statistically significant correlation, suggesting that greater press freedom is associated with fewer (not more) reported protest events. This is encouraging as it suggests that under-reporting due to press repression is not resulting in an obvious, systematic negative bias in annual event counts.

Figure 4.2a *Reported urban protest events and press freedom, countries A-L*

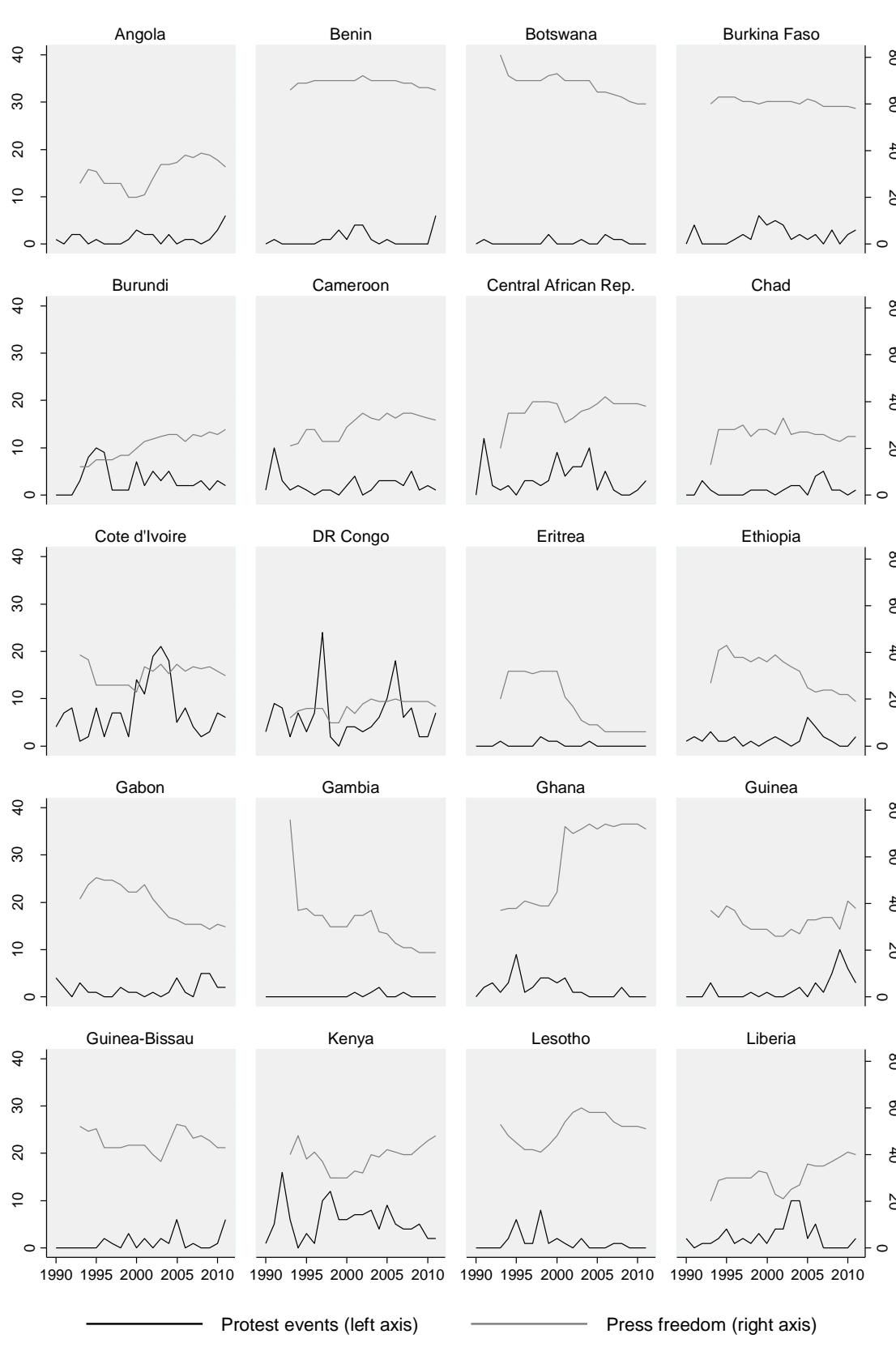
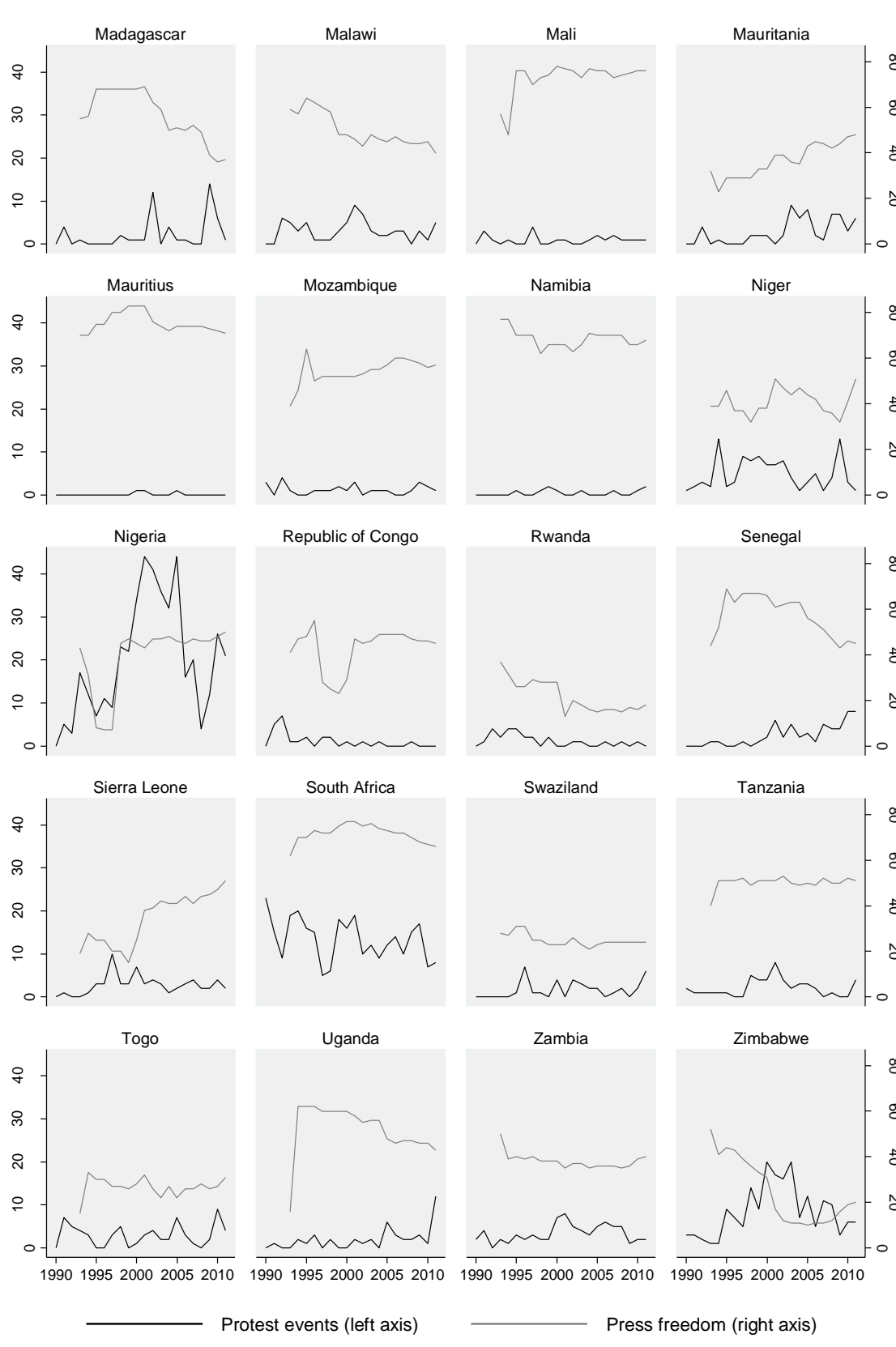


Figure 4.2b *Reported urban protest events and press freedom, countries M-Z*



The figures also illustrate wide variation in protest activity across countries and over time. Some countries, such as Cote D'Ivoire, Democratic Republic of Congo, Nigeria, South Africa and Zimbabwe appear especially prone to outbreaks of urban protest; others, such as Botswana, Eritrea, Gambia Mauritius and Namibia experienced very few reported protest events over the same period.

4.3 Demography, democracy, development and urban protest

To account for this variation in reported protest activity across countries and over time I develop an empirical model based on insights from the 'contentious politics' and conflict studies literatures. Broadly speaking, contentious politics scholars use case study methods to analyse social movements, protest cycles and revolutions, while contemporary conflict studies involves the application of comparative statistical analysis to understand the causes and consequences of organized armed violence such as civil wars and ethnic conflict. Despite differences in methodology and subject matter, there is good reason to view these literatures as complementary as they are both concerned with forms of collective political action that fall outside formal, institutionalized channels of political engagement (such as voting, lobbying and petitioning) and they both seek to explain why, how and when groups mobilize to express grievances or make claims against other groups in society (Tarrow 1996; Tilly and Tarrow 2007; Cunningham and Lemke 2011). In other words, armed conflict and urban protest can be understood as related phenomena that exist along a spectrum of contentious collective action involving various degrees of organisation and violence; hence insights from the armed conflict literature may be relevant to the development of a model of protests incidence.

The objective here is to develop a general model that helps to explain variation in protest incidence across countries and over time, rather than try to provide a definitive explanation for any specific event or protest cycle. To that

end I focus on observable demographic, political and economic factors that theoretically may affect the motives, means and opportunities for protest mobilisation.

Demography and mobilisation

Urbanisation has often been seen as a socially destabilising process with the potential to stimulate political unrest and violence (Huntington 1968; Cornelius 1969; Hibbs 1973; Walton and Ragin 1990; Goldstone 2010), but there is considerable theoretical and empirical ambiguity around the precise links between urbanisation, unrest and violence (Blanco and Grier 2009). This is due in part to the fact that the word ‘urbanisation’ is understood and operationalised in various ways (see Chapter 1). For the purposes of clarity, I distinguish between the possible effects of a) urbanisation and urban growth rates, b) levels of urbanisation, and c) urban population size.

The rapid growth of urban populations in developing countries is often portrayed as source of social strain, providing potential motives for urban unrest (e.g. Goldstone 2010). However, the few published studies that have explicitly tested the effects that urbanisation and urban growth rates—direct measures of demographic strain—exert on collective mobilisation or violence find no evidence of a negative effect.¹⁶ In an early quantitative study, Hibbs (1973) found no association between rates of urbanisation and an indicator of collective protest in a sample of 58 countries. Walton and Ragin (1990) found urban population growth to be negatively but insignificantly correlated with protest events in a study of austerity protests in developing countries in the 1980s. In a more recent study of political instability in Latin America, Blanco and Grier (2009) found that a country’s rate of urbanisation is negatively and significantly correlated with an index of political instability that includes demonstrations, riots and strikes. And Buhaug and Urdal (2013) find no

¹⁶ The lack of published evidence may be a consequence of unreported non-results.

evidence that population pressure in urban areas is associated with increased risk of urban ‘social disorder’ events. In a preliminary data analysis conducted for this paper I found that a country’s annual rate of urban population growth is inversely correlated with reported protest events. However, this appears to be a spurious correlation: an artefact of the strong positive correlations between rates of urbanisation and urban population growth on the one hand and GDP growth on the other (Fox 2012); GDP growth, in turn, is negatively and significantly correlated with social conflict (see below).¹⁷ In sum, there is no clear evidence that rapid population change exerts a direct effect on the probability of political unrest or violence in urban areas.¹⁸ However, measuring population changes may be the wrong way to assess the links between urbanisation and unrest.

Urban areas are generally seen to be conducive to social and political unrest for two reasons. First, population concentration creates significant and persistent challenges associated with the delivery of public goods and services, as well as economic opportunity, which can create cumulative grievances that stimulate periodic outbreaks of public dissent (Cornelius 1969; Walton and Ragin 1990; Blanco and Grier 2009; Goldstone 2010). Second, population concentration mitigates the perennial ‘time-distance’ costs associated with coordinating collective action making it easier to organise a protest, theoretically increasing the probability of mobilisation (Sewell 2001; see also Walton and Ragin 1990; Glaeser and DiPasquale 1998; Herbst 2009; Staniland 2010). These arguments are often advanced in tandem to support the claim that urbanisation—i.e. an increase the proportion of a nation’s population living in urban areas—is conducive to social and political unrest through its effect on the

¹⁷ Blanco and Grier do not control for GDP growth in their model, which likely explains the statistically significant negative correlation found between urban population growth and political instability in their analysis.

¹⁸ Similarly, Fox and Hoelscher (2012) find no evidence of a correlation between urban population growth rates and homicide rates in a cross-country study.

motives for dissent and the means for mobilisation. Based on this logic more urbanised countries might be expected to have higher incidence rates of protest.

Conversely, higher levels of urbanisation could plausibly reduce protest incidence for several reasons. While population concentration creates challenges, it also yields economies of scale in the provision of public goods (thereby reducing motives for protest), and facilitates government monitoring and strategic repression, which reduces opportunities for mobilisation (Collier and Hoeffler 2004; Staniland 2010). Urbanisation can also encourage social integration and the emergence of a unifying nationalist sentiment by bringing members of diverse and geographically dispersed communities into close physical contact (Reissman 1970). This may have the effect of attenuating inter-communal tensions, which can fuel contentious mobilisation, through personal friendships, intermarriages and economic interdependence. For example, Green (2013) shows that urbanisation has had a statistically significant negative effect on ethnic diversity in Africa.

It is also possible that urbanisation can affect the behaviour of political elites in ways that render protests less likely. In particular, as the share of a nation's population living in urban areas increases it is rational for political actors to cater to urban preferences in order to a) build a base of constituents and/or b) mitigate the risk of outbreaks of urban unrest, which could undermine the authority or legitimacy of a ruling regime. The threat of urban unrest has been a concern for rulers since the birth of cities, hence the frequent recourse throughout history to 'bread and circuses' to appease urban masses (Ades and Glaeser 1995).¹⁹

¹⁹A study of urban political attitudes in Africa by Harding (2010) offers some tangential support for this hypothesis. Using Afrobarometer data, Harding found that urbanites in Africa generally have a more negative view of incumbent political parties than their rural counterparts. However, this bias appears to be inversely correlated with the percentage of the population living in urban areas, suggesting that urbanisation has a positive effect on citizens' political attitudes toward incumbent regimes. Harding speculates that politicians shift their platforms in

Empirical evidence on the relationship between levels of urbanisation and protest activity is very thin. There are two studies that provide evidence of a positive relationship between a nation's level of urbanisation and social unrest (see Walton and Ragin 1990; Glaeser and DiPasquale 1998). However, the estimation strategies employed in both cases are questionable and in each case the authors have failed to control for urban population *size*, creating some ambiguity in the interpretation of the coefficient.

This is important because there are very clear theoretical and empirical grounds for assuming a positive and significant association between urban population size (in absolute terms) and protest incidence.

In many ways, the theoretical links that have generally been drawn between urbanisation and protest incidence are more aptly applied to urban population size, rather than the ratio of a nation's population living in urban areas. The challenges of providing services, amenities and opportunities in an urban area are more directly linked to the absolute size of the population living in that area than to the size of that population relative to the national population. Similarly, urban population size is a more accurate indicator of the number of people of people living in concentrated settlements where coordination costs are low than urbanisation as measured as a ratio.

Moreover, the size of a population at any geographic scale (e.g. town, city, or nation) directly determines the number of potential participants in any form of collective action. In an urban area, more people mean more potential protesters. Population size can also affect the probability of identification and punishment, with an increase in population size decreasing the probability of detection and hence the opportunity costs of participation.

Taken together, these arguments support the proposition that the size of a nation's urban population exerts a significant positive effect on the probability

favour of urban voters as these voters become increasingly (quantitatively) important constituencies.

of a protest in any given year by influencing the motives and means for protest mobilisation, as well as the individual costs of participation.

There is robust empirical support for this proposition. In both cross-national and subnational conflict research, population size and concentration are some of the strongest predictors of armed conflict onset (see Fearon and Laitin 2003; Hegre and Sambanis 2006; Saxton and Bensen 2006; Raleigh and Hegre 2009). Population size has also been shown to be correlated with various indicators of civic unrest and protest at the national level (Hibbs 1973; Arce and Bellinger 2007; Collier and Rohner 2008)), at the national *urban* level (Hibbs 1973; Kurtz 2004), and even at the city level (Eisinger 1973; Urdal and Hoelscher 2012).

In sum, there is no evidence that rates of urbanisation or urban population growth have a direct impact on protest incidence in any given year, theoretical and empirical uncertainty with regard to the influence of variation in levels of urbanisation, and very strong evidence that urban population size exerts a positive effect on the probability of protest in any given country and year.

Political institutions and processes

Political institutions and process play a pivotal role in shaping the opportunities and motives for contentious collective action. In countries with autocratic regimes, where popular participation in political affairs and open competition for political office are not permitted, protests are likely to be rare given the lack of organizations available to mobilise interest groups and the high opportunity costs facing potential participants (e.g. imprisonment, torture or death). By contrast, the 'political opportunity structure' is more favourable to protests in democratic countries where civil society organizations are allowed to operate independently, political competition is permitted, and free speech is protected (Tilly and Tarrow 2007; Chenoweth and Stephan 2011). All other things equal, democracies are therefore likely to be more prone to protests than autocracies. There is some evidence to support this proposition: in cross-

country quantitative studies Glaeser and DiPasquale (1998) found that dictatorships experience fewer riots than non-dictatorships, while Collier and Rohner (2008) show that democracies generally have more demonstrations, riots and strikes than non-democracies, but that wealthier democracies have fewer protests than poorer ones.

There are, however, a diverse range of political regime types that exist in the space between archetypal autocracies and democracies. Nearly all countries in sub-Saharan Africa fall somewhere in between these extremes, and the 'hybrid' nature of these regimes can provide motivation for collective mobilisation. In countries with nascent democratic institutions, which are not yet perceived to be wholly legitimate, the mismatch between public expectations and the actual performance of *de jure* institutions may drive citizens into the street (Machado, Scartascini and Tomassi 2011; Pilati 2011). Consequently, countries with hybrid regimes are theoretically likely to experience more protests than 'strong' or stable autocracies or democracies, and the existing evidence supports this proposition. Cunningham and Lemke (2011) find evidence that hybrid regimes have a higher risk of riots than strong democracies and strong autocracies; Urdal and Hoelscher (2012) show a similar result with urban social disturbance events; and complimentary studies of demonstrations and riots in Latin America by Kurtz (2004) and Arce and Bellinger (2007) show that hybrid democracies are more prone to unrest than fully institutionalised ones. This inverted-U has even been demonstrated at the city level. In a study of protest events in American cities in 1968, Eisinger (1973) found that protest was more common in cities where "the political opportunity structure is characterized by a mix of open and closed variables" (17) in terms of perceived access to city councillors and executives.

Political opportunity structures are also shaped by process and events that increase the possibility and potential returns of collective mobilisation at particular moments in time. Elections provide important focal points for

political contestation and mobilisation, particularly in weakly institutionalised democracies where the legitimacy of electoral processes and outcomes are contested. Similarly, during periods of political reform, when the 'rules of the game' governing important political issues such as the architecture of authority and the terms of political competition are in flux, collective mobilisation can be used as a tactic to influence decision makers or signal public preferences. There has been surprisingly little cross-country empirical research on the effects of such episodes on contentious collective action to date. The model presented here is a step towards filling this gap in the literature.

Economic growth and income level

One of the most consistent findings in the conflict studies and contentious politics literatures is that there is an inverse correlation between economic growth rates and episodes of contentious collective action, from armed rebellions to urban demonstrations and riots (see Glaeser and DiPasquale 1998; Campos and Nugent 2002; Collier and Hoeffler 2004; Kurtz 2004; Miguel, Satyanath and Sergenti 2004; Arce and Bellinger 2007; Blattman and Miguel 2010; Bohlken and Sergenti 2010; Urdal and Hoelscher 2012). The explanation for this is intuitive: robust growth increases the opportunity costs of engaging in contentious activities while low or negative growth decreases opportunity costs, intensifies social strain and stimulates divisive political mobilization (Bohlken and Sergenti 2010). However, the relationship between income level and contentious collective action is theoretically and empirically less clear.

There is a longstanding view that economic development, when viewed over the long run, can be a socially and politically destabilising process (Huntington 1968; Hibbs 1973; Harms and Zink 2005). In essence, this view is based on the notion that quantitative and qualitative shifts in economic output erode 'traditional' hierarchies and values, exacerbate socioeconomic stratification and stimulate popular demands for the redistribution of wealth and political

authority (*ibid*). There is no empirical support for this view in the conflict studies literature: abundant research has consistently demonstrated that income level and the incidence of armed conflict are clearly negatively correlated (Blattman and Miguel 2010). However, in the case of urban unrest the evidence is less clear.

Theoretically, more wealthy countries might be expected to experience fewer protests than poorer ones given the higher opportunity costs of participation in contentious action associated with higher incomes. Conversely, rising income expands the resources available for mobilization and is generally associated with the emergence of a middle class, which (contrary to popular perceptions) is far more likely to organize and participate in protest than the urban poor (Huntington 1968; Nelson 1979).²⁰

Given this theoretical ambiguity, it is not surprising that empirical studies offer conflicting evidence on the relationship between income and contentious collective action in urban areas. While Glaeser and DiPasquale (1998) found a negative and significant association between income and riots in a cross-country analysis, Collier and Rohner (2008) find a positive a significant correlation between GDP per capita on the one hand and demonstrations, riots and strikes on the other. Other studies have generally found no statistically significant correlation between income and the incidence of various forms of contentious collective action (Walton and Ragin 1990; Bratton and van de Walle 1997; Bohlken and Sergenti 2010; Cunningham and Lemke 2011; Urdal and Hoelscher 2012).

²⁰ Empirical support for this argument can be found in recent studies that have assessed the determinants of individual propensities to engage in protest. For example, in a study of self-reported protest participation based on Afrobarometer data from 18 African countries Pilati (2011) found that educational attainment, employment and membership in a trade union, professional association or community development association—factors associated with middle-class status—are all positively and significantly correlated with protest participation. In similar study of protest participation in Latin America, Machado, Scartascini and Tommasi (2011) found education, personal income and ‘civic engagement’ to be positively associated with protest participation.

Finally, an important omission from the model developed here is an indicator of socioeconomic inequality, which is widely believed to exert a positive influence on motives for contentious collective action. However, there is simply not enough reliable cross-country comparative data on inequality in sub-Saharan Africa to permit inclusion in the present analysis.

In sum, the following general hypotheses can be drawn from this review of the theoretical and empirical literature:

- (a) The probable number of urban protests in any given country and year is likely to be positively associated with the size of a country's urban population;
- (b) Protests are likely to be more common in countries with democratic political institutions—i.e. institutions that permit broad participation, competition for political office, and limitations on executive powers—than those with autocratic or repressive ones;
- (c) Countries with 'hybrid' institutions are likely to have more protests than established democracies or autocracies;
- (d) Protests are more likely occur during episodes of electoral contestation and institutional reform;
- (e) Economic growth rates are likely to be inversely correlated with protest mobilization (i.e. more growth, less protests).

These hypotheses form the core of the model. Indicators of urbanization and GDP per capita are also included as controls with no a priori hypotheses attached.

A generalised version of the model derived from these hypotheses and controls can be expressed with the following equation:

$$Protests_{it} = \alpha_{it} + \beta_1 Demo'_{it} + \beta_2 Pol'_{it} + \beta_3 Econ'_{it}$$

where $Protests_{it}$ is the number of reported protest events in country i in year t , $Demo'_{it}$ is a vector of demographic factors, Pol'_{it} is a vector of political factors, and $Econ'_{it}$ is a vector of economic indicators. The specific components of these vectors are explained in detail below. The inclusion of specific indicators in this model is informed both by the theoretical discussion above and availability, as there is generally a shortage of reliable quantitative data for students of African development. It is hoped that the use of indicators which are readily available in other regions will encourage replication of the model to test the validity of the findings presented here as well as provide greater nuance where more detailed data are available.

4.4 Empirical analysis

4.4.1 Data and Methodology

For the demographic vector in the model I employ three different indicators in various combinations, all derived from UN Population Division estimates (United Nations 2012). The first is the natural log of the urban population ($Ln\ urban\ population$) for each country-year. Based on previous research I expect this to be positively and significantly correlated with protest incidence. Second, I introduce level of urbanisation ($Ln\ urbanisation\ (\%)$)²¹. There is no a priori hypothesis in this case. I then test specifications with each of these indicators controlling for national population size ($Ln\ national\ population$). Finally, I test the preferred model in which $Ln\ urban\ population$ and $Ln\ urbanisation\ (\%)$ are jointly included in the equation. This is the preferred model because the population of interest is the urban population of each country, not the national population, given that the dependent variable only captures events in urban areas.

²¹ Urbanisation is log transformed to compensate for the fact that it is censored at 0.

The political vector in the model consists of four indicators. Two of these capture political-institutional characteristics of countries and two capture the influence of political processes.

To test the hypothesis that democratic institutions are conducive to protest activity I include the Polity IV *Democracy* score for each country-year. This is a composite indicator combining measures of the competitiveness of political participation, the openness and competitiveness of executive recruitment and constraints on the chief executive for each country and year. The indicator takes values between 0 and 10, with 0 representing no democratic characteristics and 10 representing strong democratic institutions. The scale is not necessarily continuous given the diverse combinations of sub-components possible in the middle of the index, which makes this a rather crude way of measuring degrees of political liberalism. Nevertheless, we should still expect to find positive correlation between this measure of democracy and protest incidence.

However, the literature also suggests non-linear (i.e. an inverted-U) shaped relationship between democratic institutions and protest activity, with 'hybrid' regimes most prone to contentious collective action. To test this hypothesis I also include a *Democracy*² term to allow for this hypothesised non-linear relationship. If this hypothesis is correct, the coefficient on this variable should show a negative sign.

The third political variable is *Regime change* which takes a value of 1 if a country experienced a polity score change of 3-points or more in that year. There are at least two reasons for hypothesising a positive correlation between *Regime change* and protest: a) a positive change, indicating political liberalisation, expands opportunities for protest mobilization, and b) any change indicates that a country is in the midst of institutional transition, which (as noted above) provides motives for collective mobilisation. The vast majority of regime changes recorded in the dataset are positive.

Finally, I include an *Elections* variable, which is the sum of all elections—including presidential elections, parliamentary or legislative elections and referenda—for each country-year drawn from the African Elections Database (Nunley 2013). This is an explicit measure of political competition and is expected to be positively correlated with protest incidence given that a) elections provide a focal point for collective mobilisation and b) public perceptions of procedural malfeasance in young democracies often motivate public protests in the run-up to and aftermath of elections.

To facilitate identification, the *Democracy*, *Democracy*² and *Regime change* variables are lagged by one year. This mitigates the potential for reverse causality—i.e. that protests in a given year have influenced the democracy score or driven a regime change in that same year. With regard to elections, the expected influence is contemporaneous—i.e. the holding of an election may create motives for protest before, during and after the event. As a result, this variable is not lagged, which renders clear identification of the direction of causality more difficult.

To assess the influence of economic conditions on protest incidence I include indicators of per capita *GDP growth* and *GDP per capita* (log transformed) for each country-year. Both indicators are drawn from the World Bank World Development Indicators database and are measured in constant 2000 US\$. Based on the theory and previous research outlined above, the former is expected to be negatively correlated with protest activity. Given the ambiguity of previous research there is no *a priori* hypothesis concerning the relationship between income and protest activity. In order to ensure that the *GDP growth* variable is not reflecting the consequences of protest activity (e.g. reduced investment due to risk-averse firms) a one-year lagged value is also tested with the model.

Finally, I introduce the *Press freedom* score described in section 2 above in the full and final specification to control for the possibility that there is a systematic

bias in the reporting of protest events across countries, and within countries over time. As noted above, a simple bivariate correlation between reported protest events and press freedom indicates an unexpected negative correlation. However, there is no *a priori* hypothesis concerning the effect of press freedom in the full model.

The dependent variable in the analysis is the sum of demonstrations, riots and strikes reported for each country-year from the UPE dataset described in section 2. The full panel is balanced and consists of a total of 875 country-year observations.²²

Estimation strategy

The protest model is estimated using a negative binomial event-count regression equation (*xtnbreg* command in Stata). This approach is the most appropriate strategy given the skewed and highly dispersed distribution of the protest event data (seen Appendix B) and has become the standard estimation strategy for analyses of similar datasets over the past decade (see Kurtz 2004; Shatzman 2005; Arce and Bellinger 2007; Bohlken and Sergenti 2010; O'Hara and Kotze 2010; Urdal and Hoelscher 2012). The functional form of the full model is

$$\begin{aligned}
 \ln(Protests_{it}) &= \alpha_{it} + \beta_1(\ln urban\ population)_{it} + \beta_2(\ln urbanization\ (\%))_{it} \\
 &+ \beta_3(Democracy)_{it-1} + \beta_4(Democracy^2)_{it-1} \\
 &+ \beta_5(Regime\ change)_{it-1} + \beta_6(Elections)_{it} \\
 &+ \beta_7(Press\ freedom)_{it} + \beta_8(GDP\ Growth)_{it} \\
 &+ \beta_9(\ln\ GDP\ per\ capita)_{it}
 \end{aligned}$$

²² Because protest data for Eritrea begin in 1993, there are a total of 877 country-year observations in the dataset. However, the use of lagged independent variables, coupled with the fact that Namibia formally gained independence in 1990 (and hence has no observations for the year 1989), results in the loss of 2 country-year observations yielding a total of 875 observations.

All specifications include country fixed-effects to control for time-invariant factors that may affect the incidence of protest (e.g. ethnic diversity, former colonial occupier, etc.) as well as dummy variables for each year (with 1990 as the reference year) to control for time-variant factors such as technological change (e.g. the increasing availability of mobile phones, which might facilitate protest coordination) or demonstration effects (e.g. media coverage in a given year of protests in other countries, which may stimulate domestic copy-cat movements). Random effects estimates, not reported here, produced nearly identical results. Descriptive statistics and a correlation matrix are provided in Appendix C.

4.4.2 Negative binomial regression results

Table 4.1 presents the results of the empirical analysis.

With regard to demographic factors, there is a strong correlation between urban population size and protest incidence: the coefficient on *Ln urban population* is positive and significant at the 1% level in specifications 1, 5 and 6. The *Ln national population* variable is also positive and highly significant, which is expected given that these two variables are very highly correlated (see Table C2). In column 3, where both *Ln urban population* and *Ln national population* are included, the sign on the urban population variable becomes negative. This is because jointly including these variables in an equation is the equivalent of testing the association between urbanisation (i.e. the urban population as a proportion of the total population) and protest. This is demonstrated in column 4, where the coefficient on *Ln urbanisation (%)* is shown to be identical to the coefficient on *Ln urban population* in column 3 despite the fact that these two variables are not particularly closely correlated (see Table C2).

Unexpectedly, the coefficient on the *Ln urbanisation (%)* variable is consistently negative and statistically significant in all specifications in which it

is included, indicating that more urbanised countries experience fewer urban protests on average than less urbanised countries, all other things equal. This finding is empirically unprecedented and runs counter to conventional wisdom.

All of the political indicators in the model support the a priori hypotheses outlined above. *Democracy* is positively correlated with protests at the 1% level and *Democracy*² is negatively correlated with protests at the 1% level across all specifications. There are also strong positive correlations between *Regime change* and *Elections* and protests, suggesting that shifting political institutions and episodes of political contestation increase protest activity. The direction of causality is clear in the case of *Regime change* given that the variable is lagged by one year. However, with *Elections* a case for reverse causality could be made: protests may result in the calling of elections rather than elections stimulating protest mobilization. In results not reported here, a lagged *Elections* variable was generally found to be negatively correlated with the number of protest events in the following year. A more nuanced temporal analysis is clearly required to tease out specific causal patterns given the likely positive feedback between popular protests, political events and political reforms (see below).

As expected GDP growth is consistently negatively correlated protest frequency, lending further support to the findings of previous studies that have shown that slow (or negative) growth increases protest activity while robust growth serves to reduce the probability of urban unrest. The direction of causality could be challenged: protest activity may discourage investment and hence depress growth (Alesina and Perotti 1996), although empirical support for this argument is ambiguous (see Campos and Nugent 2002). To deal with the possibility of reverse causality all equations were estimated with GDP growth lagged by one year with similar results, as demonstrated in column 5.

Table 4.1 *Determinants of urban protest: negative binomial regression results*

	Dependent variable = Urban protest events						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Ln urban population	.288*** (.086)		-.488* (.259)		.395*** (.091)	.376*** (.089)	2.86** (.120)
Ln urbanisation (%)		-.591** (.285)		-.488* (.259)	-.882*** (.270)	-.869*** (.267)	-1.09*** (.356)
Ln national population			.882*** (.270)	.395*** (.091)			
Democracy _{t-1}	.173*** (.049)	.160*** (.052)	.180*** (.049)	.180*** (.049)	.180*** (.049)	.171*** (.050)	.210*** (.055)
Democracy ² _{t-1}	-.023*** (.006)	-.022*** (.006)	-.025*** (.006)	-.025*** (.006)	-.025*** (.006)	-.024*** (.006)	-.026*** (.007)
Regime change _{t-1}	.284*** (.087)	.307*** (.087)	.297*** (.087)	.297*** (.087)	.297*** (.087)	.275*** (.088)	.329*** (.088)
Elections	.161*** (.041)	.149*** (.042)	.156*** (.041)	.156*** (.041)	.156*** (.041)	.156*** (.041)	.121*** (.042)
Press freedom							-.016*** (.004)
GDP growth	-.023*** (.006)	-.024*** (.006)	-.025*** (.006)	-.025*** (.006)	-.025*** (.006)		-.021** (.006)
GDP growth _{t-1}						-.014** (.006)	
Ln GDP per capita	.318*** (.121)	.601*** (.153)	.526*** (.133)	.526*** (.133)	.526*** (.133)	.510*** (.131)	.837*** (.181)
Constant	-6.36*** (1.31)	-1.82** (.930)	-10.35*** (1.74)	-8.10*** (1.70)	-6.28*** (1.35)	-5.96*** (1.32)	-3.92** (1.88)
Fixed-effects	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES
Countries	40	40	40	40	40	40	40
N	875	875	875	875	875	875	759
Log likelihood	-1478.57	-1481.34	-1472.90	-1472.90	-1472.90	-1477.74	-1265.06

Notes: standard errors are in parentheses. Significance at the 1, 5 and 10 per cent levels are indicated by ***, **, * respectively.

Somewhat surprisingly GDP per capita is positively and significantly correlated with protest incidence at the 1% level across all specifications. While this result is consistent with the findings of Collier and Rohner (2008), it stands in contrast to the findings of many other studies of the determinants of contentious collective action, from riots to armed conflict.²³

Finally, column 7 shows that these results remain robust to the inclusion of *Press freedom* as a control, and that the coefficient on this variable is negative and significant at the 1% level.²⁴ This is an intriguing result in that it runs counter to the expectation that press repression would lower the number of reported protests.

4.5 Discussion

Overall, these results support the core hypotheses informing the protest incidence model. However, they also yield some unexpected results which raise a variety of interesting questions that could be addressed in future research.

The strong negative and significant correlation found between a country's *level* of urbanisation and protest incidence is unexpected given previous research and the ambiguous theoretical linkages between these two variables. If future studies confirm this result further research is necessary to clarify the mechanisms at work. Are more urbanised populations easier to oppress? Are they easier to appease? Are they more likely to get what they want by influencing the decisions of political leaders seeking public support? Are they less likely to suffer divisive social antagonisms due to social integration in

²³ Collier and Rohner (2008) found significant interaction effects between income and democracy in their study using a dummy variable for democracy. Similar specifications were explored in results not reported here, but no significant interaction effects were identified.

²⁴ All specifications shown in the table were run with press freedom included and the results were essentially identical. It is omitted here simply to maximise the size and consistency of the sample.

urban areas? Or is this finding an artefact of the sample, which only includes countries in sub-Saharan Africa? If so, why? Further research might address these questions.

Similarly, the strong positive association between GDP per capita and protest incidence, while not entirely unprecedented, is when situated within the broader corpus of empirical research on contentious collective action. If the correlation proves robust, more fine-grained research could explore the specific mechanisms at play. There is some evidence that rising income in sub-Saharan Africa has recently been accompanied by the expansion of the middle classes in both absolute and relative terms (Ravallion 2010). Are these the agitators and participants? Do increases in disposable income increase protest by enhancing the means for mobilisation? Or do rising incomes affect motives by shifting public preferences away from basic needs and toward ideational goods such as having a chance to participate in public affairs and hold leaders accountable for their actions (see Collier and Rohner 2008 and Inglehart 1997)?

The finding that press freedom is inversely correlated with protest incidence is intriguing. It could be interpreted as providing evidence that press repression has not significantly biased the reporting of events in this dataset, and including it as a control certainly reduces the risk of obtaining biased estimates. However, it is still theoretically possible that there *is* a systematic negative bias in the number of events reported where press freedom is limited, but that this effect is being statistically overshadowed by some positive effect. Either way, the implication is that press freedom—or some other factor highly correlated with press freedom—may have a causal role to play in determining protest incidence. Does a free press effectively channel dissent and conflict into public debate in print and on the airwaves, thereby reducing motives for collective public action? Conversely, does press repression motivate protest mobilisation? Further research, possibly exploring specific episodes of press liberalisation or repression, might provide valuable insights.

The use of lagged values of the political indicators in the model (apart from elections) reduces the likelihood of obtaining biased estimates due to reverse causality, but there is a strong historic case to be made that protests influence levels of democracy, the frequency of elections and the likelihood of significant political reforms being implemented. The empirical model presented here only examines one side of what is surely a dynamic process with positive feedback in which protests stimulate reforms which facilitate protest, etc. (Tilly and Tarrow 2007; Chenoweth and Stephan 2011).

Among scholars of African politics, the region-wide trend toward the adoption of increasingly liberal political institutions since the end of the Cold War is often traced back to the periodic mass urban protests that began in the late 1980s in response to economic crisis and public discontent with the prevailing political status quo (Wiseman 1996; Bratton and van de Walle 1997). In a particularly influential study, and one of the few to provide a quantitative, comparative empirical analysis of the links between protest and political liberalization in Africa, Bratton and van de Walle (1997) showed that protest activity was positively and significantly correlated with political liberalization between 1985 and 1994. However, in subsequent analyses by Lindberg (2002; 2009) this correlation was shown to be temporally specific: after 1994 protest activity does not appear to have had a significant influence on the subsequent degree of liberalization in countries in the region. More research is clearly needed to unpack the temporal dynamics between protest and political liberalisation in sub-Saharan Africa.

Finally, the results presented here raise the intriguing possibility that there is an indirect link between armed conflict and urban protest trends in the region.

As noted in the introduction, the frequency and intensity of armed conflicts in sub-Saharan Africa has been in decline since the mid-1990s. This trend, which has yet to be adequately explained, is illustrated in Figure 4.3, which

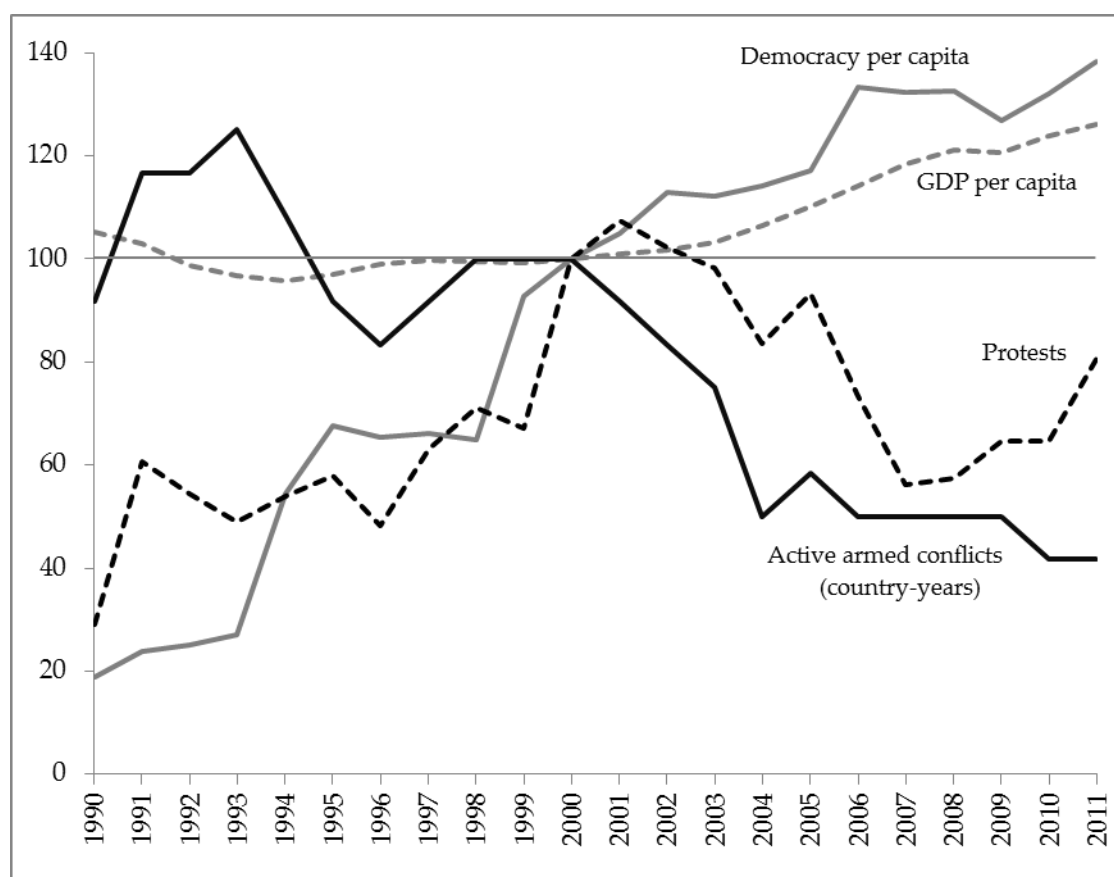
plots trends in protests, armed conflicts, income and democracy for the same sample of 40 countries used in the forgoing analysis.²⁵

Some authors have cited political liberalisation and improved economic prospects as potential (partial) explanations (Straus 2012; August 2013). Cross-country statistical analyses have, on balance, provided ambiguous conclusions concerning the broad linkages between democratisation and the likelihood of armed conflict (see Reynal-Querol 2005; Gleditsch, Hegre and Strand 2009; Blattman and Miguel 2010). Yet, as the figure shows, when viewed at the regional level and over time, it is clear that political liberalisation in sub-Saharan Africa has coincided with a declining number of active armed conflicts. Moreover, there is a broad consensus in the literature that higher incomes and robust growth reduce the probability of armed conflict, and improved economic performance in the region since the late 1990s clearly corresponds to a sharp decline in the number of active armed conflicts. The figure also shows that protest incidence and political liberalisation have generally moved in the same direction (as predicted by the model presented above), apart from a brief divergence between 2002 and 2007, which coincided with the region's best growth performance in decades.

While we cannot draw any causal inference from these basic trends, it is nevertheless worth investigating the possibility that demographic, political and economic trends may be contributing to a shift in the nature of contentious politics in the region by rendering armed conflict less likely and urban protests more likely.

²⁵ Protest data are from the UPE dataset. Armed conflict data are derived from Major Episodes of Political Violence (MEPV) database produced by the Center for Systemic Peace (Marshall 2013), which records all episodes of "systematic and sustained use of lethal violence by organized groups that result in at least 500 directly-related deaths over the course of the episode" (MEPV Codebook). In the figure the black line represents the annual sum of conflicts coded in binary for each country-year (0= no armed conflict in that country-year; 1=one or more armed conflicts of any magnitude in that country-year). Democracy per capita was calculated by summing the products of each country's democracy score and population and then dividing this sum by the total regional population. GDP per capita is also population weighted. All series have been converted to index numbers with the year 2000 serving as the base year (2000=100).

Figure 4.3 *Democracy, income, protest and armed conflicts in SSA, 1990-2011*



4.6 Conclusion

The protest incidence model presented and tested in this chapter indicates that the likely number of protests in any given country and year is influenced by urban population size, the nature of political institutions and processes, and economic performance. Unexpectedly, I find income level to exert a positive effect on protest incidence while a country's level of urbanisation and degree of press freedom both appear to be inversely correlated with protest incidence.

These results make a modest contribution towards filling a gap in the cross-country empirical literature concerned with identifying the underlying causes and effects of contentious collective action in the region. They also raise many questions and point to further directions for research. In particular, the specific

mechanisms linking explanatory factors to protest incidence need to be disaggregated and fleshed out, and feedback effects need to be identified in order to develop a truly dynamic model.

Finally, the results hint at the possibility that apparently diverging trends in urban protest and armed conflict may be indirectly connected. Urban population growth, political liberalisation and rising incomes are increasing the means, motives and opportunities for street protests in sub-Saharan Africa. Given the findings of previous research, it is possible that these same trends are reducing the risk of armed conflict in the region. In other words, demographic, political and economic macro-trends may be driving a transformation in the nature of contentious politics in the region. If so, the recent uptick in urban protest activity could be interpreted as good news for Africa.

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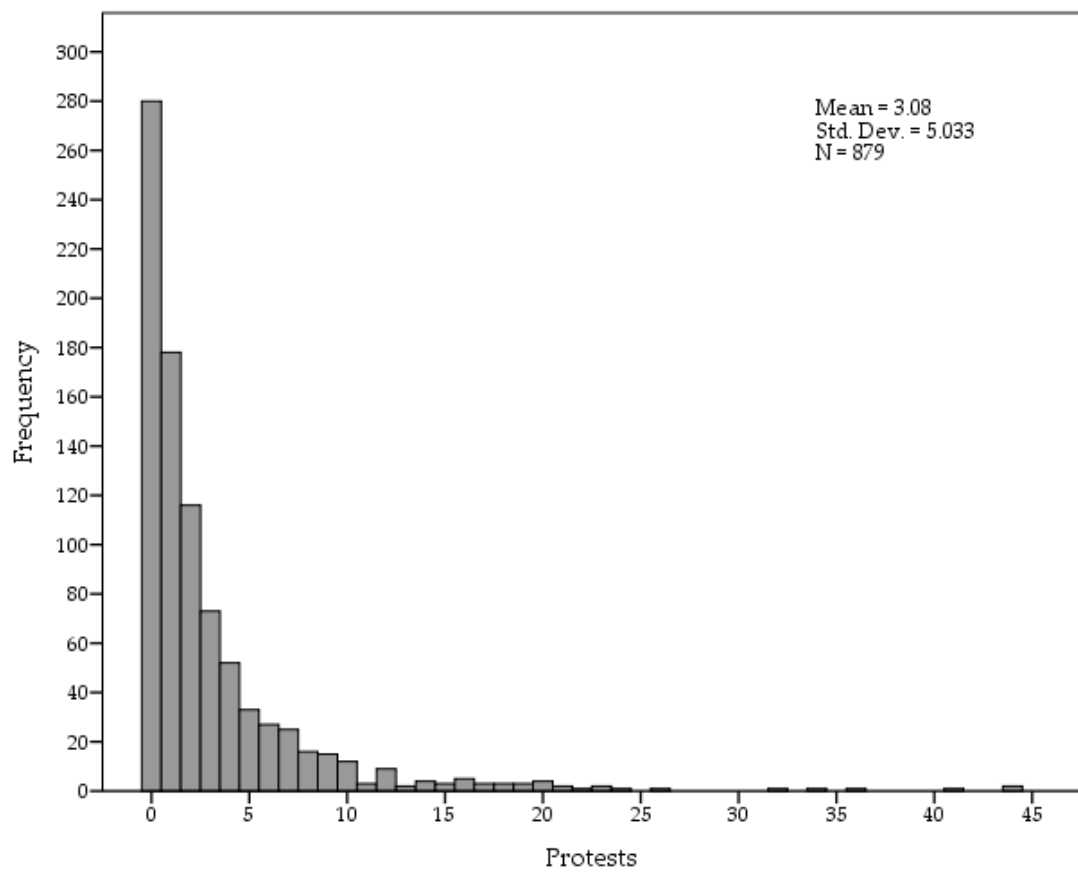
Appendix A

Urban protest events: descriptive statistics by country

Country	Obs	Mean	Std.	Min	Max	Total
			Dev.			
Angola	22	1.27	1.45	0	6	28
Benin	22	1.05	1.68	0	6	23
Botswana	22	0.36	0.66	0	2	8
Burkina Faso	22	1.86	1.83	0	6	41
Burundi	22	3.18	2.94	0	10	70
Cameroon	22	2.14	2.19	0	10	47
Central African Republic	22	3.36	3.39	0	12	74
Chad	22	1.09	1.38	0	5	24
Cote d'Ivoire	22	7.55	5.76	1	21	166
Dem. Rep. of the Congo	22	6.32	5.52	0	24	139
Eritrea	19	0.32	0.58	0	2	6
Ethiopia	22	1.45	1.44	0	6	32
Gabon	22	1.64	1.62	0	5	36
Gambia	22	0.23	0.53	0	2	5
Ghana	22	1.82	2.17	0	9	40
Guinea	22	1.64	2.56	0	10	36
Guinea-Bissau	22	1.14	1.81	0	6	25
Kenya	22	5.59	3.81	0	16	123
Lesotho	22	1.18	2.04	0	8	26
Liberia	22	2.50	2.84	0	10	55
Madagascar	22	2.23	3.84	0	14	49
Malawi	22	3.09	2.41	0	9	68
Mali	22	0.95	1.05	0	4	21
Mauritania	22	2.82	2.99	0	9	62
Mauritius	22	0.14	0.35	0	1	3
Mozambique	22	1.23	1.15	0	4	27
Namibia	22	0.45	0.67	0	2	10
Niger	22	4.95	3.75	1	13	109
Nigeria	22	19.95	13.69	0	44	439
Republic of Congo	22	1.09	1.77	0	7	24
Rwanda	22	1.18	1.37	0	4	26
Senegal	22	2.45	2.58	0	8	54
Sierra Leone	22	2.77	2.29	0	10	61
South Africa	22	13.41	4.95	5	23	295
Swaziland	22	1.64	2.04	0	7	36
Tanzania	22	2.14	2.05	0	8	47
Togo	22	2.95	2.54	0	9	65
Uganda	22	1.95	2.68	0	12	43
Zambia	22	3.36	2.06	0	8	74
Zimbabwe	22	8.50	5.90	1	20	187

Appendix B

Frequency distribution of reported urban protest events by country-year



Appendix C

Descriptive statistics and correlation matrix of explanatory variables

Table C1 *Descriptive statistics for explanatory variables*

Variable	Obs	Mean	Std. Dev.	Min	Max
Ln urban population	880	14.67	1.21	12.19	18.21
Ln urbanisation (%)	880	3.40	0.50	1.69	4.46
Ln national population	880	15.87	1.21	13.67	18.91
Democracy _{t-1}	875	2.90	3.24	0.00	10.00
Democracy _{t-1} squared	875	18.91	26.67	0.00	100.00
Regime change _{t-1}	877	0.17	0.37	0.00	1.00
Election(s)	877	0.38	0.69	0.00	3.00
Press freedom	760	42.69	18.02	6.00	83.00
GDP growth	877	1.03	6.87	-50.24	91.67
GDP growth _{t-1}	876	9.36	6.94	-50.24	91.67
Ln GDP per capita	878	6.04	0.98	4.00	8.59

Table C2
Correlation matrix for explanatory variable

	Ln urban populatio n	Ln urbanisatio n (%)	Ln national population	Democracy _t -1	Democracy _t -1 squared	Regime change _{t-1}	Election(s)	Press freedo m	GDP growth	GDP growth _{t-1}	Ln GDP per capita
Ln urban population	1.000										
Ln urbanisation (%)	0.204	1.000									
Ln national population	0.914	-0.210	1.000								
Democracy _{t-1}	0.054	0.182	-0.021	1.000							
Democracy _{t-1} squared	-0.016	0.189	-0.094	0.962	1.000						
Regime change _{t-1}	0.006	-0.041	0.023	-0.192	-0.168	1.000					
Election(s)	0.022	-0.004	0.024	-0.042	-0.035	0.087	1.000				
Press freedom	0.041	0.199	-0.040	0.646	0.646	-0.199	0.032	1.000			
GDP growth	0.023	0.017	0.016	0.128	0.106	-0.084	0.021	0.137	1.000		
GDP growth _{t-1}	0.013	0.009	0.009	0.161	0.124	-0.208	-0.007	0.138	0.292	1.000	
Ln GDP per capita	-0.121	0.584	-0.363	0.254	0.342	-0.214	-0.043	.371	0.074	0.092	1.000

